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I.1
4-6-07

April 6, 2007

Ms. Erica Islas
Site Assessment Manager
U.S. EPA Region 5
Office of Superfund SE 6J
77 West Jackson Blvd.
Chicago, IL 60604

RE: Windham Alloys Site, Supplemental Expanded Site Inspection
CERCLIS ID OHSFN0507820

Dear Ms. Islas:

A Supplemental Expanded Site Inspection (SESI) for the Windham Alloys Site (a.k.a., Windham Alloy Metal Company) was completed by Ohio EPA under a cooperative agreement with U.S. EPA, Region 5. Ohio EPA performed this work to demonstrate if the site is of National Priority List (NPL) caliber.

Windham Alloys has operated as a lead smelting plant. Over the years, illegal dumping of lead dross and chromic acid had occurred behind the plant. The property was investigated in 1998 for criminal activity, and U.S. EPA conducted a time-critical removal action in 2000.

The Workplan for this SESI was approved by U.S. EPA on May 31, 2006. The soil, sediment, ground water, and surface water sampling was conducted on July 17 through July 20th, 2006. A total of 43 samples including duplicates and backgrounds were collected both on- and off-site. The samples were screened on-site using x-ray fluorescence (XRF) and analyzed through the U.S EPA Contract Laboratory Program (CLP) for the Target Analyte List (TAL) metals and cyanide. The main concern at the Site is direct contact exposure to lead contaminated soil and sediment, the sporadic lead contamination of Windham's nearby wellfield, and ecological impact due to lead contaminated soil, sediment, and surface water.

After evaluating all information obtained through this SESI relating to the potential exposure pathways, the site does qualify for the National Priorities List. This is primarily due to the elevated level of lead found in one of Windham's production wells. Although the production well was resampled and significantly lower levels were found. Due to

the inconsistency, Ohio EPA is recommending that, prior to listing on the NPL, the Site be placed in the Superfund Alternative Program and a Potentially Responsible Party (PRP) Search be conducted. If no viable PRPs are located then Ohio EPA recommends the Site be listed on the NPL.

If you have any questions or need additional information, please contact me at (330) 963-1249.

Sincerely,

Andrew C. Kocher
Site Coordinator
Division of Emergency & Remedial Response

ACK/ams

cc: Jessica Page, Ohio EPA, Central Office, DERR
Wendy Vorwerk, Ohio EPA, Central Office, SIFU

SUPPLIMENTAL EXPANDED SITE INVESTIGATION (SESI) REPORT

Windham Alloys
Windham, Portage County, Ohio

U.S. EPA ID: OHSFN0507820
Ohio EPA DERR ID: 267-1943
January, 2007

Prepared by: Wendy Vorwerk (JP) Date: 4/5/07.
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Approved by: _____ Date: 3/30/07
Erica Islas
Early Action Project Manager
USEPA Region 5

entered in CERCLIS
4/5/07 Ed

SUPPLIMENTAL EXPANDED SITE INSPECTION (SESI) REPORT

for

Windham Alloys
Windham, Portage County, Ohio
U.S. EPA ID: OHSFN0507820
Ohio EPA DERR ID: 267-1943

OHIO ENVIRONMENTAL PROTECTION AGENCY
Division of Emergency & Remedial Response
Lazarus Government Center
122 South Front Street
Columbus, Ohio 43216

January, 2007

Ohio AGO's Bureau of Criminal Identification and Investigation (BCI) and U.S. EPA's Criminal Investigation Division (CID) began another investigation. The waste products that were suspected of being dumped included lead dross, a byproduct of lead smelting, and chromic acid.

On November 24, 1998, a criminal search warrant was executed at Windham Alloys. The investigation included exploratory test trench excavations in which over 100 five-gallon containers and a few 55-gallon drums where found. Ohio EPA collected 21 samples from the contents of the buried wastes. The majority of the samples were analyzed and determined to be hazardous for Toxic Characteristic Leaching Procedure (TCLP) lead and chromium. The excavated waste was removed and disposed of properly by Ohio EPA's contractor.

On December 15, 1998, Ohio EPA ordered Mr. Rubino to remove the remaining buried waste and clean up any contaminated soils. Mr. Rubino ignored the order. Ohio EPA then requested U.S. EPA's assistance in cleaning up the Site as a Time Critical Removal. After negotiating with Mr. Rubino for several months, U.S. EPA obtained a search warrant for the removal. A removal was conducted that lasted approximately 3 months, from March 13 to June 29, 2000. U.S. EPA removed over 3,000 tons of contaminated soil and 20 cubic yards of contaminated debris. The soils and debris were treated on-site then shipped off-site as non-hazardous to a licensed sanitary landfill. Additionally, 12,870 gallons of flammable liquid was shipped off-site for fuels blending. U.S. EPA also had 317,102 gallons of contaminated liquids pumped from the Site to prevent the migration of surface water into other streams or the ground water. Prior to leaving the Site, U.S. EPA restored the soils and graded and seeded the affected areas.

In 2001/2002 the Ohio EPA conducted a federal Site Inspection which included soil, sediment, and surface water sampling. High levels of lead and chromium were found in many of the on-site soils, as well as sediment samples from the drainage ditches.

In 2003, the Ohio EPA conducted an Expanded Site Inspection to evaluate the ground water pathway and the possible migration of contaminants to the nearby municipal wells. Two on-site monitoring wells were installed, and two existing wells were located. One of the existing wells was a drinking water source for the on-site residents. All the wells are approximately 50-60 feet deep. The results indicated that the contaminants are not migrating into the ground water and are restricted by approximately 40 feet of low permeable clay.

2.3 Site Geology & Hydrology

Portage County was completely covered by continental glaciers during the Wisconsin and Illinoian ages and probably during previous glacial periods (White, 1960). During the most recent, the Wisconsin glacial period, parts of Portage

County were covered by two coincident glacier lobes. The Killbuck Lobe occurred in the northern half of the western tier of the townships, and the Grand River Lobe covered most of the rest of the county. These lobes did not meet, but they advanced and retreated repeatedly. The area between the two lobes is called the interlobate zone. It begins in central Geauga County, extends through the western third of Portage County, and continues southwestward through Summit County and into Stark County. This interlobate area consists of sand and gravel and interbedded layers of till.

The first advance of the Wisconsin Glacier deposited glacial till that was relatively low in clay content. Wooster and Canfield soils formed in this till. The less extensive second major advance deposited till having relatively more clay than the first deposits. The Rittman and Wadsworth soils formed in this till. The third advance, less extensive than the others, deposited till with a high content of clay. The Mahoning and Ellsworth soils formed in this till. In Portage County, only the Grand River Lobe had a fourth advance, which deposited a clayey till that had very high clay content. The Remsen and Geeburg soils formed in that clay till.

The rock hills in the northern part of the county have a northwest-southeast orientation that parallels the movements of the glacial lobes. Sandstone outcrops in some of the steeper area where there is no till cover. Numerous valleys are buried under the glacial drift in Portage County. During or before the Illinoian glacial advance, the ice deepened the valleys and smoothed the valley walls; then the advancing Wisconsin Glacier filled these valleys with gravel, sand, silt, and clay. Valleys were filled with silt and clay if outlets were blocked by the glacier; open valleys were filled mainly with sand and gravel.

The bedrock underlying the glacial deposits and outcropping in places is a member of the Pottsville Formation of the Pennsylvanian System. It is mainly acid sandstone and shale. The regional dip of the bedrock strata averages 5 to 10 feet per mile toward the south. (2)

Ground water is obtained from sandstones of the Pottsville group. The principal aquifers are the Massillon sandstone and the Sharon conglomerate. Wells in the area will produce sustained yields of as much as 50 gallons per minute. Greater yields, 100 or more gallons per minute, may be available for short periods of intermittent pumping. Generally, the bedrock is covered with less than 75 feet of glacial material. (3)

The Village of Windham's water system was installed and put into operation in September 1943 and currently serves an approximate population of 3,150 individuals (See Figure 1). The system originally consisted of eight wells, numbered 3 through 10, located along the east side of the west corporation line and north of Center Street (State Route 303) and spaced at 500 foot intervals. Since installation, wells 6 and 7 have been abandoned due to the construction of the Ohio Turnpike. Well 4 was abandoned and re-drilled in close proximity to its original location. Three wells (3, 4, & 5) are located just east of the Site. The

remaining wells (8, 9 & 10) are located north of the turnpike, approximately 1500-2000 feet north of the Site's northern boundary. Records show that the remaining six wells are placed within the sandstone bedrock at depths ranging from 72 to 95 feet below ground. The upper surface of the sandstone at the Site was encountered at approximately 40 feet below ground.

3.0 SAMPLING LOCATIONS & DISCUSSION OF RESULTS

A multi-increment sampling technique was used at this Site. Soil, sediment, surface water and ground water were collected both on- and off-site during this SESI. The sample locations can be found on the Sample Location Maps **Figure 3 and Figure 4**. Standard Quality Assurance and Quality Control (QA/QC) procedures for Site Inspection field activities were followed during the investigation. These procedures are documented in the Quality Assurance Project Plan (QAPP) for Region 5 Superfund Site Inspection activities for Ohio EPA and Ohio EPA Field Standard Operating Procedures.

The soil and sediment samples were screened on-site using the Ohio EPA's Innov-X Systems Model 400-SL XRF. Using statistical analysis, the XRF results strongly correlated with the CLP data. The XRF results, as well as the statistical correlation, can be found in **Appendix D**.

A total of 43 samples, including backgrounds and duplicates, were sent for analyses to U.S. EPA Contract Laboratory Program (CLP) laboratories. Analysis included only the contaminants of concern which are Target Analyte List (TAL) metals and cyanide. The sample results are reported in the units of either micrograms per liter (ug/L) which is equivalent to parts per billion (ppb), or milligrams per liter (mg/L) which is equivalent to parts per million (ppm). The CLP data were reviewed by U.S.EPA Region 5 for compliance with the Contract Laboratory Program, and validated by the Computer-Aided Data Review and Evaluation (CADRE) software package. The complete analytical results of this investigation are contained in **Appendix A**.

Significant findings based on these data are summarized in Tables 1 through 4. Under the Hazard Ranking System Rule (6), results are considered significant if they are at least three times the background sample result and above the Contract Required Quantitation Limit (CRQL). The CRQLs can be found in **Appendix B**. A site photographic log can be found in **Appendix C**.

3.1 Soil Samples

A multi-increment sampling technique was used for the soil samples. Data from the previous investigations were used to identify seven soil sample areas located north of the building complex. The identified areas are named Soil Area 1 through Soil Area 7 (Figure 3). Surface soils were collected in soil areas 1 through 6. Thirty increments or sub-samples were collected in each area, at random locations, using a stainless steel step probe to a depth of 4 inches. The sub-samples were composited into one sample, the multi-increment sample.

In addition to the surface samples, deeper soil samples were collected using a Geoprobe™ in areas 3, 4 and 7 (Figure 4). Three soil borings were collected in both Soil Area 3 (GP-01 through GP-03) and Soil Area 4 (GP-04 through GP-06);

and six soil borings were collected in Soil Area 7 (GP-07 through GP-12). The top 2 feet of the soil cores were sampled. The samples were collected at depth ranges of 0-6 inches, 6-12 inches, 12-18 inches and 18-24 inches. For each soil area, each depth range, from the cores, was composited into one sample.

The samples were dried, sieved and ground to a uniform particle size. Because of the large volume of sample and to further collect a representative sample, approximately 30 sub-samples were collected to provide the volume necessary for lab analysis and to complete one multi-increment sample. This procedure can be seen in the Photographic Log in Appendix C. The samples were screened in the field using XRF and 13 of the samples were sent to the CLP laboratory for analysis.

Significant soil sample results from the CLP data can be found in Table 1 below. The sample nomenclature is as follows. SS stands for shallow soil and the number refers to the soil area. DS is deep soil with the soil area number, and the second number represents the depth (1 represents 0-6 inches, 2 represents 6-12 inches, 3 represents 12-18 inches, and 4 represents 18-24 inches). The A and B suffix represents a split sample.

High levels of lead and chromium were found in several of the soil areas. The US EPA's Preliminary Remediation Goals (PRGs) level for lead is 400 ppm in residential soils and 800 ppm in industrial soils. Soil Area 6 has surficial lead concentrations up to 1,170 ppm, and Soil Area 7 had lead levels at 3,670 ppm from 0-6 inches. Soil Area 5 also had high lead levels at 727 ppm.

Soil Area 7 showed elevated concentrations of many other metals including mercury at 18.1 ppm. The industrial PRG for mercury is 6.1 ppm. Copper was detected at 9,040 ppm which is well above the residential PRG of 3,100 ppm, but not above the industrial level of 41,000 ppm. Total chromium was detected at 1,270 ppm in Soil Area 7, below both PRG levels.

Table 1: Significant Soil Sample Results

Sample Number :	ME1593		ME1594		ME1595		ME1596		ME1597		ME1598	
Sampling Location :	SS-01		SS-01A		SS-02A		SS-02B		SS-03		SS-04	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	7/18/2006		7/18/2006		7/18/2006		7/18/2006		7/17/2006		7/17/2006	
%Solids :	97.8		98		95.2		95.1		99		99.1	
Dilution Factor :	1		1		1		1		1		1	
ANALYTE	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
BARIUM					226	J+	235	J+				
CADMIUM					1.3	J+	1.4	J+				
CHROMIUM					45.7						54.7	
COPPER	117		151		125		166					
LEAD					220		176				209	

Sample Number :	ME1599		ME1600		ME1601		ME1602		ME1603		ME1605	
Sampling Location :	SS-05		SS-06A		SS-06B		DS-04-2		DS-07-1		SS-BKG	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	7/17/2006		7/17/2006		7/17/2006		7/18/2006		7/18/2006		7/18/2006	
%Solids :	98.9		98.4		98.7		99.2		99.3		98.9	
Dilution Factor :	1		1		1		1		1		1	
ANALYTE	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
ANTIMONY									227	J	6.1	UJ
ARSENIC									40.8		10	
BARIUM											68.6	J+
CADMIUM					1.1	J+			11.3		0.35	J+
CALCIUM	14600		23700		24300				18900		3990	
CHROMIUM	261		331		371		47		1270		14.1	
COBALT									27.7		7.2	
COPPER	217		350		322		121		9040		31.7	
IRON									208000		17400	
LEAD	727		1030		1170		128		3670		42	
MANGANESE									2300		372	
MERCURY									18.1		0.1	U
NICKEL									1270		19.9	
SILVER									1.25	J-	0.41	J-
ZINC			377						2380		101	

3.2 Sediment Samples

A multi-increment sampling technique was also used for the sediment samples. The ditch on the west side of the building complex was divided into five sections named Ditch Area 1 – 5. The east side ditch was broken into four areas and named Ditch Area 7 – 10. The pond on the north end of the Site is Area 6. The section divisions were chosen based on natural breaks, access and coverage area.

Thirty sub-samples were collected in each area using a shovel, disposable scoop or hand core and composited into one multi-increment sample. The locations of each sub-sample were randomly selected within each ditch decision unit. The sediments samples were very uniform in consistency of fine, dark silt and organic matter. Because of the large volume of sample and to further collect a representative sample, approximately 30 sub-samples were collected to provide the volume necessary for lab analysis and to complete one multi-increment sample.

Significant sediment sample results can be found in Table 2 below. Lead was elevated in four of the ditch areas. Samples SE-01 (Ditch Area 1) and sample SE-02 (Ditch Area 2) are located on the west side of the building complex. Ditch Area 2 is located adjacent to Soil Area 7. Lead was detected in SE-02 at 514

ppm, and in SE-01 788 ppm. SE-09 and SE-10, Ditch Areas 9 and 10, are located opposite of Ditch Areas 1 and 2 on the east side of the building complex. Lead was detected in SE-09 at 345 ppm and in SE-10 at 311 ppm.

Table 2: Significant Sediment Sample Results

Sample Number :	ME1580		ME1581		ME1582		ME1583		ME1584		ME1585	
Sampling Location :	SE-01		SE-02		SE-03		SE-04		SE-05		SE-06	
Matrix :	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	7/19/2006		7/20/2006		7/20/2006		7/19/2006		7/19/2006		7/19/2006	
%Solids :	24.7		29.6		26.1		18.1		35.7		18.2	
Dilution Factor :	1		1		1		1		1		1	
ANALYTE	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
CHROMIUM											103	
LEAD	788		514									
MERCURY												
NICKEL	257	J										
CYANIDE	15.2				4.1	J	15.2					

Sample Number :	ME1586		ME1587		ME1588		ME1589		ME1591		ME1590	
Sampling Location :	SE-07		SE-08		SE-09		SE-10		SE-04A		SE-11	
Matrix :	Sediment		Sediment		Sediment		Sediment		Sediment		Background	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006	
%Solids :	48.6		78.7		21		33.3		18.7		19.3	
Dilution Factor :	1		1		1		1		1		1	
ANALYTE	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
CHROMIUM	159										31.6	
LEAD					345		311				103	
MERCURY							2.6				0.52	U
NICKEL											42.4	J
CYANIDE					16.5		7	J	13.2	J	0.61	J

3.3 Surface Water Samples

Surface water samples were collected in the ditch areas adjacent to the building complex and in the pond, except Ditch Area 1 where no water was available. Approximately 6 aliquots were collected in each area and composited into one sample.

Significant surface water sample results can be found in Table 3 below. Elevated manganese was found in all but two of the surface water samples. Otherwise, the only sample with significant levels of metals is SW-01 collected in Ditch Area 2 on the west side of the building complex adjacent to Soil Area 7. Lead was detected in this area at 688 ppb, zinc at 1,230 ppb, arsenic at 94 ppb and copper at 292 ppb.

Table 3: Significant Surface Water Sample Results

Sample Number	ME1614		ME1606		ME1607		ME1608		ME1609	
Sample Location	SW-08		SW-01		SW-02		SW-03		SW-04	
Sample Description	Background		Ditch 2		Pond		Pond		Ditch 7	
Matrix	Water		Water		Water		Water		Water	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled	7/18/2006		7/18/2006		7/18/2006		7/18/2006		7/18/2006	
% Solids	0		0		0		0		0	
Dilution Factor	1		1		1		1		1	
Analyte	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
ALUMINUM	1360		31700							
ARSENIC	28.7		94							
BARIUM	111	J	1310							
BERYLLIUM	0.34	J	3.1	J+						
CADMIUM	0.71	J	14	J+						
CHROMIUM	6.1	J	51.4							
COBALT	5.9	J	35.3	J						
COPPER	38.1		292							
IRON	69400		232000							
LEAD	9.4	J-	688							
MAGNESIUM	7570		23300							
MANGANESE	245		6170						1040	
NICKEL	18.6	J	93.2							
VANADIUM	7.5	J	76.8							
ZINC	101		1230							

Sample Number	ME1610		ME1611		ME1612	
Sample Location	SW-05		SW-06		SW-07	
Sample Description	Ditch 8 & 9		Ditch 10		Ditch 3	
Matrix	Water		Water		Water	
Units	ug/L		ug/L		ug/L	
Date Sampled	7/18/2006		7/18/2006		7/18/2006	
% Solids	0		0		0	
Dilution Factor	1		1		1	
Analyte	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
MANGANESE	736		1390		1300	

3.4 Ground Water Samples

Nine ground water samples were collected during this investigation. Three on-site monitoring wells were collected along with two Village of Windham production wells used for public water supply and one on-site residential well. Because of the turbidity of the monitoring well samples, both filtered and unfiltered sample were collected.

Significant ground water sample results can be found in Table 4 below. Because no background well could be located, all the results above the CRQL are presented. The exception is thallium, where the CRQL is 25 ppb and the Maximum Contaminant Level (MCL), which is the highest level of a contaminant that is allowed in drinking water under the National Primary Drinking Water Standards, is 2 ppb.

Of highest concern is the on-site residential well, GW-08. Although this well is not used for drinking, it is used for all other household purposes. Lead was detected at 201 ppb, and the Treatment Technique (TT) for lead under the MCLs is 15 ppb. The public water supply wells both had containments above the MCLs TT. In GW-07, Village of Windham Well #4, lead was found at 319 ppb and copper at 3210 ppb. The TT for copper is 1,300 ppb. GW-06, Village of Windham Well #4, showed an estimated concentration (J) of thallium at 9 ppb, the MCL for thallium is 2 ppb.

Sample GW-01, MW-4, had elevated levels of thallium at an estimated concentration 7.6 ppb, and GW-02, MW-02, had mercury at an estimated concentration of 0.65 ppb.

Due to the elevated levels of lead found in the residential well and the production wells, Ohio EPA re-sampled PW-3, PW-4, and Mr. Howard Hill's well for total metals. The results of this sampling event are in Appendix A. The results showed a decrease in the lead concentrations, which were all below the TT.

Table 4: Significant Ground Water Sample Results

Sample Number	ME1572		ME1573		ME1574		ME1575		ME1576	
Sample Location	GW-01		GW-02		GW-03		GW-04		GW-05	
Sample Description	MW-4		MW-2		MW-3		MW-2		MW-3	
Matrix	Unfiltered		Unfiltered		Water		Filtered		Dup of GW-03	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled	7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006	
Dilution Factor	1		1		1		1		1	
Analyte	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
ALUMINUM			206							
CALCIUM	59900		99800		77600		84600		84700	
CHROMIUM					12.3				21.9	
COPPER										
IRON	5300		1000		2060				2310	
LEAD										
MAGNESIUM	16300		27000		21600		22700		23600	
MANGANESE	455		374		218		300		239	
MERCURY			0.65	J+						
POTASSIUM					7000	J			8200	J
SODIUM	10800		48000		30700		42800		33100	
THALLIUM	**7.6**	J								
ZINC	90.8									
CYANIDE	37.5						21			

Sample Number	ME1577		ME1578		ME1579		ME1613		**Maximum Contaminant Levels (MCLs) OR Treatment Technique***
Sample Location	GW-06		GW-07		GW-08		GW-09		
Sample Description	PW-4		PW-3		Res Well		MW-4		
Matrix	Water		Water		Water		Filtered		
Units	ug/L		ug/L		ug/L		ug/L		
Date Sampled	7/19/2006		7/19/2006		7/19/2006				
Dilution Factor	1		1		1		1		
Analyte	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	
ALUMINUM									N/A
CALCIUM	99000		79000		65300		61800	J-	N/A
CHROMIUM									1000
COPPER			**3210**		104				**1,300***
IRON	5760		2820		2950		1140	J-	N/A
LEAD			**319**		**201**				**15***
MAGNESIUM	26100		21200		18300		16700	J-	N/A
MANGANESE	327		240		197		254	J-	N/A
MERCURY									2
POTASSIUM									N/A
SODIUM	54600		25100		15800		9360	J-	N/A
THALLIUM	**9**	J							**2**
ZINC			205						N/A
CYANIDE									200

* Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

4.0 MIGRATION PATHWAYS

4.1 Soil Exposure Pathway

Currently, there is one adult resident that lives on the Windham Alloy site. His home is located in the southwest building along State Route 303. The remainder of the Site is abandoned with no on-site workers; however, some of the warehouse space is still utilized and visited occasionally.

Access to the main property (i.e., main buildings and warehouses) is restricted by a fence and the resident keeps watch for trespassers and visitors. However, access to the back portion of the property, including the pond, ditches and removal area is unrestricted. A service road for Village personnel to access and maintain the wells runs along the eastern border of the Site, giving easy access to the northern portion of the Site. There are no terrestrial sensitive environments on-site.

Sample results showed high lead levels in the surface soils (less than 4 inches) in the accessible areas of the Site, and within 200 feet of the resident. The residential population within a 4-mile radius is 8,828; having a population of 20 people residing with ¼ mile of the Site. The nearby population within one mile is 1,333. Censes information can be found in Appendix E.

4.2 Groundwater Pathway

The ground water pathway is the primary migration pathway of concern. The Village of Windham supplies an approximate population of 3,150 individuals from a series of six wells in the Village well field. The well field is located adjacent to the Site to the east and north. Three of these wells (numbers 3, 4 & 5) are located along the property boundary of the Site, with well #4 approximately 250 feet from the former removal area. The remaining three wells (numbers 8, 9, & 10) are located north of the Ohio Turnpike, approximately 1500-2000 feet north of the Site's northern boundary. Two wells, #4 and #10 are the primary production wells, and Well #3 is used as back-up. The Site itself lies within the Village Well Head Protection Area; indicating that ground water likely flows east toward Production Well #4.

Existing within a 4-mile radius of the Site are two additional public community water supply systems. These two systems are approximately 2.03 and 2.87 miles northwest of the Site and serves 600 and 92 people respectively. This information can be found on the Geographic Information Systems (GIS) public water supply database and maps in Appendix E.

During the 2003 ESI, an elevated lead level of 9.1 ppb was found in the on-site residential well, but was not detected in the monitoring and production wells. However, the results of this sampling event showed the concentration of lead in

the residential well was 201 ppb. Additionally, lead was detected in production well # 3 at 319 ppb. Thus it appeared that lead is migrating into the ground water. However, the residential well and production wells were re-sampled and results indicated that lead concentrations had decreased below the Treatment Technique. The highest result from the ground water re-sampling event was 12 ppm in the residential well.

4.3 Surface Water Pathway

According to the Flood Insurance Rate Map (FIRM), the Site is situated in zone C. Zone C is defined as an area prone to minimal flooding. The on-site surface waters consist of ditches on each side of the Site and a pond. The east side ditch flows north into the pond. The west side ditch also flows north and meets with the pond's discharge water. From this confluence, the water flows about 0.25 miles north under Interstate 80 where it enters the South Fork of Eagle Creek. The South Fork of Eagle Creek flows about 2.1 miles and meets up with Eagle Creek, which flows 11.4 miles into the Mahoning River.

The pond appears to be used infrequently as a fishing spot; evidence seen around the pond (e.g. bait containers, bobbers and fishing line) indicates its use. Harvesting fish from the pond for human consumption has not been verified.

Within the 15 mile Target Distance Limit (TDL), there are no drinking water intakes. There are 2 state endangered species located in Eagle Creek, the tall cinquefoil (*Potentilla arguta*) and the mountain brook lamprey (*Ichthyomyzon greeleyi*). There is also one state threatened species, the vernal water-starwort (*Callitriche verna*). Wetland frontage is estimated to be 0.1 miles.

Sample results showed elevated lead levels in four sediment samples and one surface water sample collected from the on-site ditches. There was no elevated lead levels in the pond or the downstream sample, which was collected just downstream of the confluence of the pond discharge water and the west ditch.

4.4 Air Pathway

The Ohio EPA personnel did not initiate a formal air sampling program at Windham Alloys. The main building area of the Site is partially covered with concrete and asphalt. The northern area is mostly vegetated and portions are wet. High levels of lead were detected in the top 4 inches in this area, making migration by airborne particulates likely.

Sensitive environments within the 4 mile TDL include habitats known to be used by state-endangered species and include the following: Yellow-bellied sapsucker (*Sphyrapicus varius*), lurking leskea (*Plagiothecium latebricola*), mountain brook lamprey (*Ichthyomyzon greeleyi*), tall cinquefoil (*Potentilla arguta*), northern

prostrate clubmoss (*Lycopodiella margueritae*), and graceful underwing (*Catocala gracilis*). The Leggett's pinweed (*Lechea pulchella*) was identified as a state-threatened species.

The estimated population according to the 2000 census is as follows:

Radius	Population
0 - 1/4	20
1/4 - ½	59
½ - 1	1,333
1-2	2,186
2-3	1,737
3-4	3,493
Total	8,828

4.5 Summary

From the ground water data collected during this investigation, it appears that lead is potentially migrating into the ground water and into the Village of Windham public water supply wells. Lead was also detected at high levels in the on-site residential well used for all household purposes except drinking. However, during the 2003 ESI, lead was not detected in the monitoring and production wells, and at a much lower level in the residential well. In addition, the re-sampling event in September 2006 showed decreases of lead concentrations in the production wells and the residential well, below the Treatment Technique.

Lead was detected in the sediment and surface water samples in ditches adjacent to the building complex. Lead was not detected in the down gradient pond or tributary to the South Fork of Eagle Creek indicating the lead is not migrating down the surface water pathway. However, extensive sampling was not conducted much past the northern property boundary.

The top 4 inches of the northern on-site soils are heavily contaminated with lead This surficial soil are mostly vegetated, but in areas where the vegetation is thin migration by airborne particulates likely. This area is accessible to the public, and is used to some extent for public recreation. However, the exposure to the public is probably minimal.

5.0 References

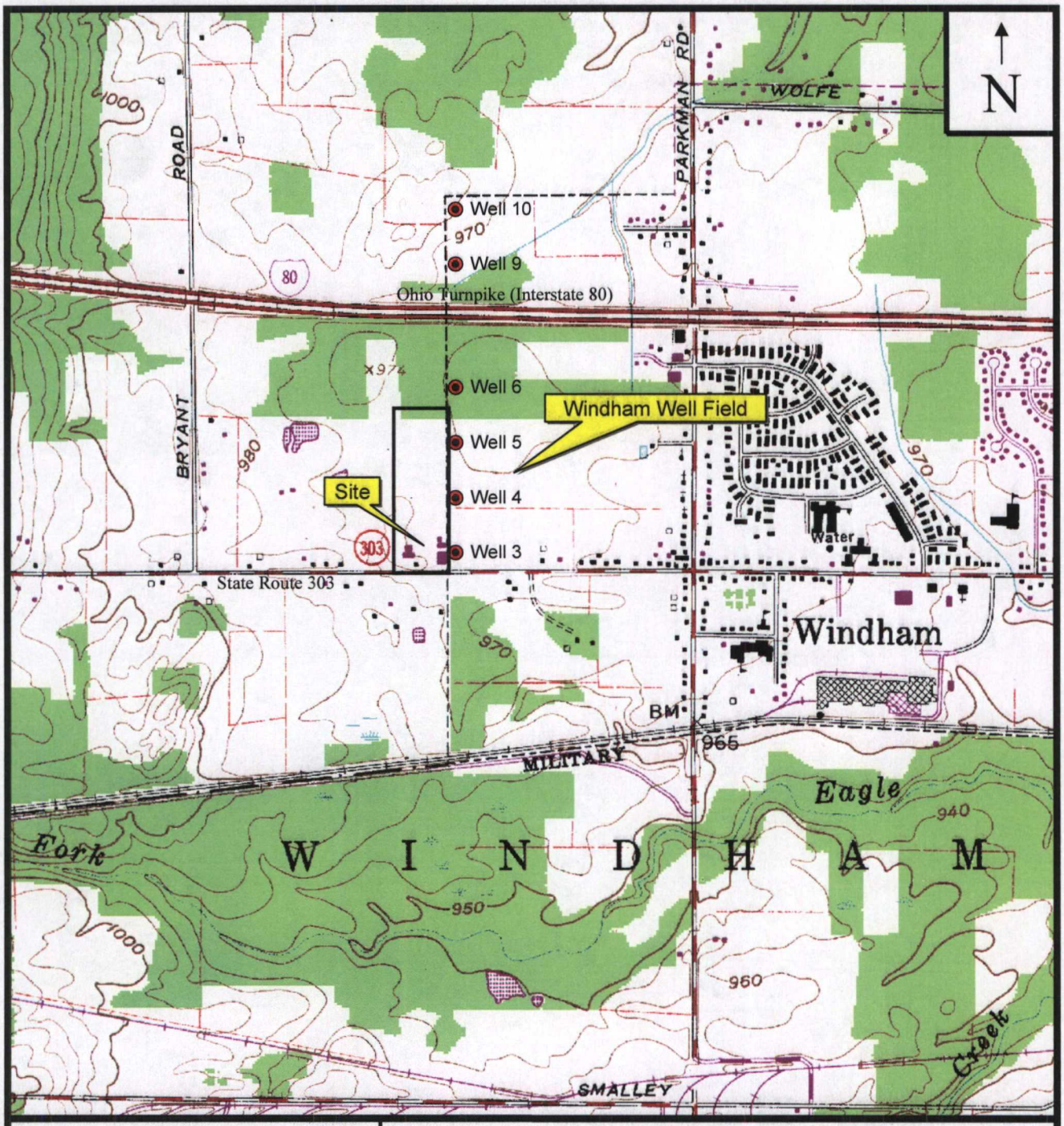
1. United States Department of Agriculture, Soil Conservation Service, "Soil Survey of Portage County," 1978.

2. Ohio Department of Natural Resources, Division of Water, "Ground Water Resources of Portage County," 1979.

3. Ohio EPA, "Quality Assurance Project Plan for Superfund Site inspection Activities conducted by Ohio EPA," May 14, 1998.

4. Ohio EPA, "Site Inspection Report, Windham Alloy Metal Company," January 2, 2002.

5. Ohio EPA, "Expanded Site Inspection Report, Windham Alloy Metal Company," September 25, 2003.



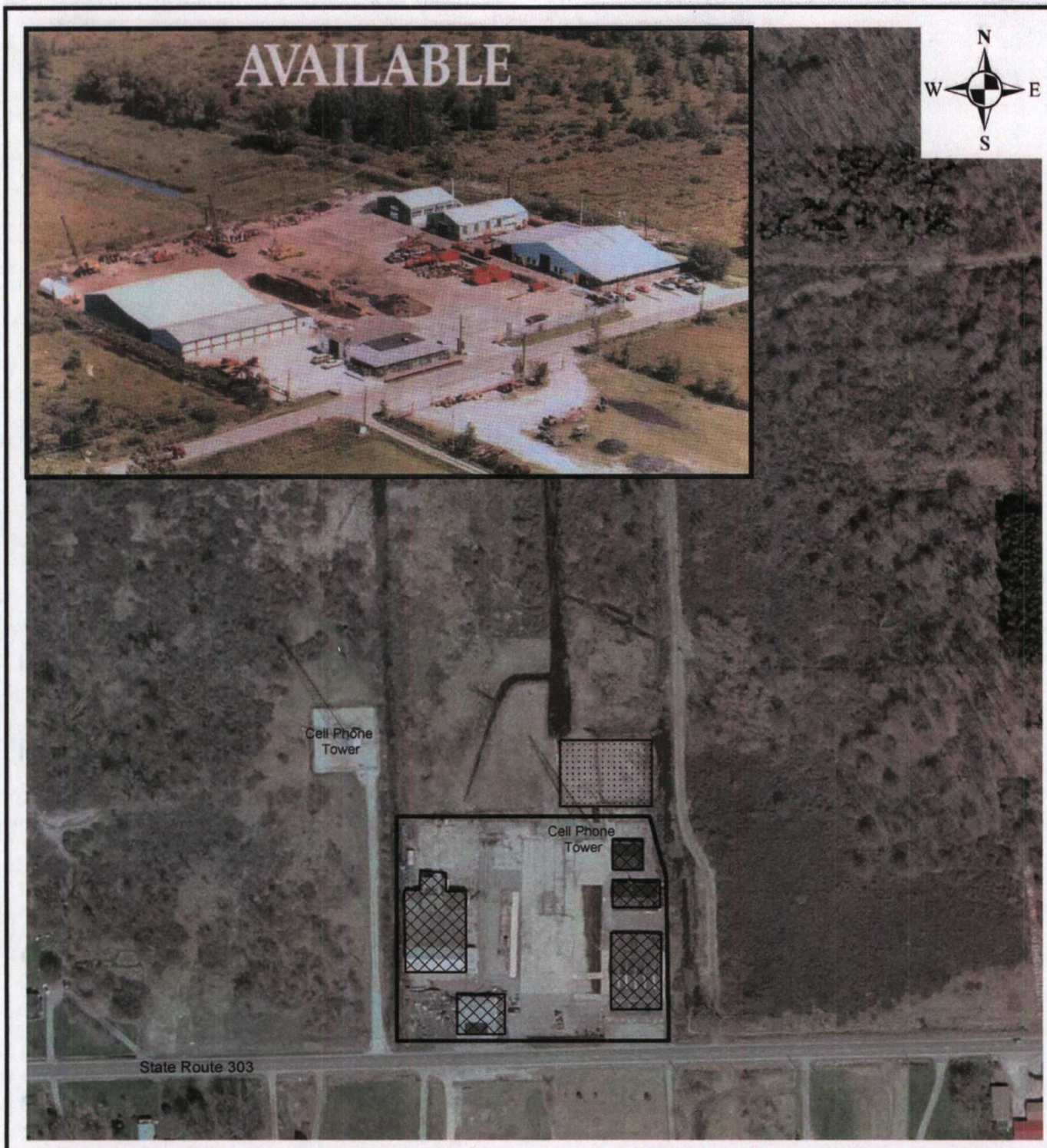
LEGEND

- Approximate boundary of site
- Approximate public supply well location

WINDHAM ALLOYS SITE
VILLAGE OF WINDHAM, PORTAGE COUNTY, OHIO

FIGURE 1: SITE LOCATION MAP

Ohio Environmental Protection Agency | SCALE : NOT TO SCALE



LEGEND

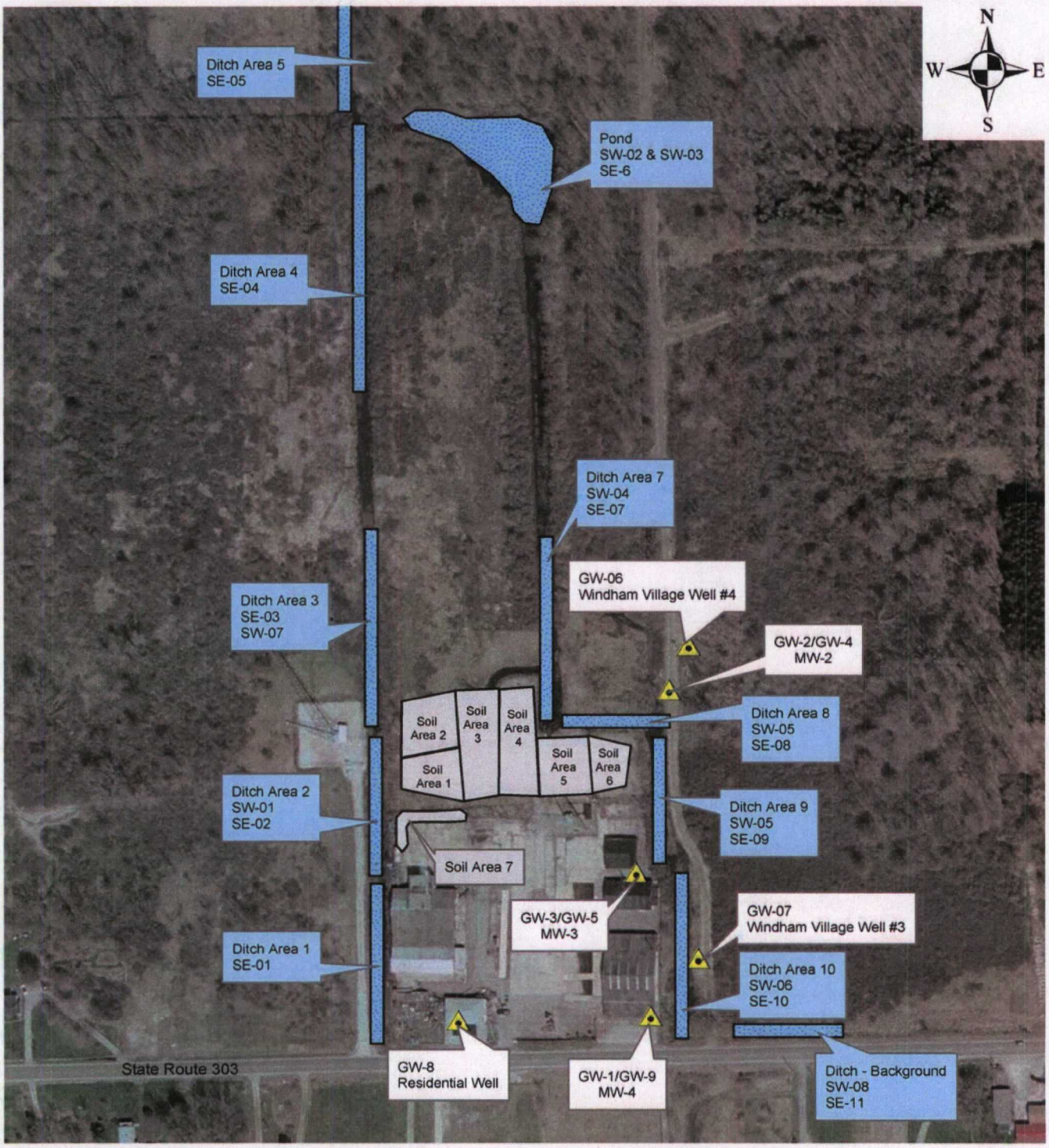
- Approximate Building Location
- Approximate Concrete/Ashalt Area
- Approximate Removal Area

WINDHAM ALLOYS
WINDHAM, PORTAGE COUNTY, OHIO
SITE FEATURES MAP

FIGURE 2: SITE FEATURES MAP

Ohio Environmental Protection Agency

0 50 100 200 300 400 Feet



LEGEND

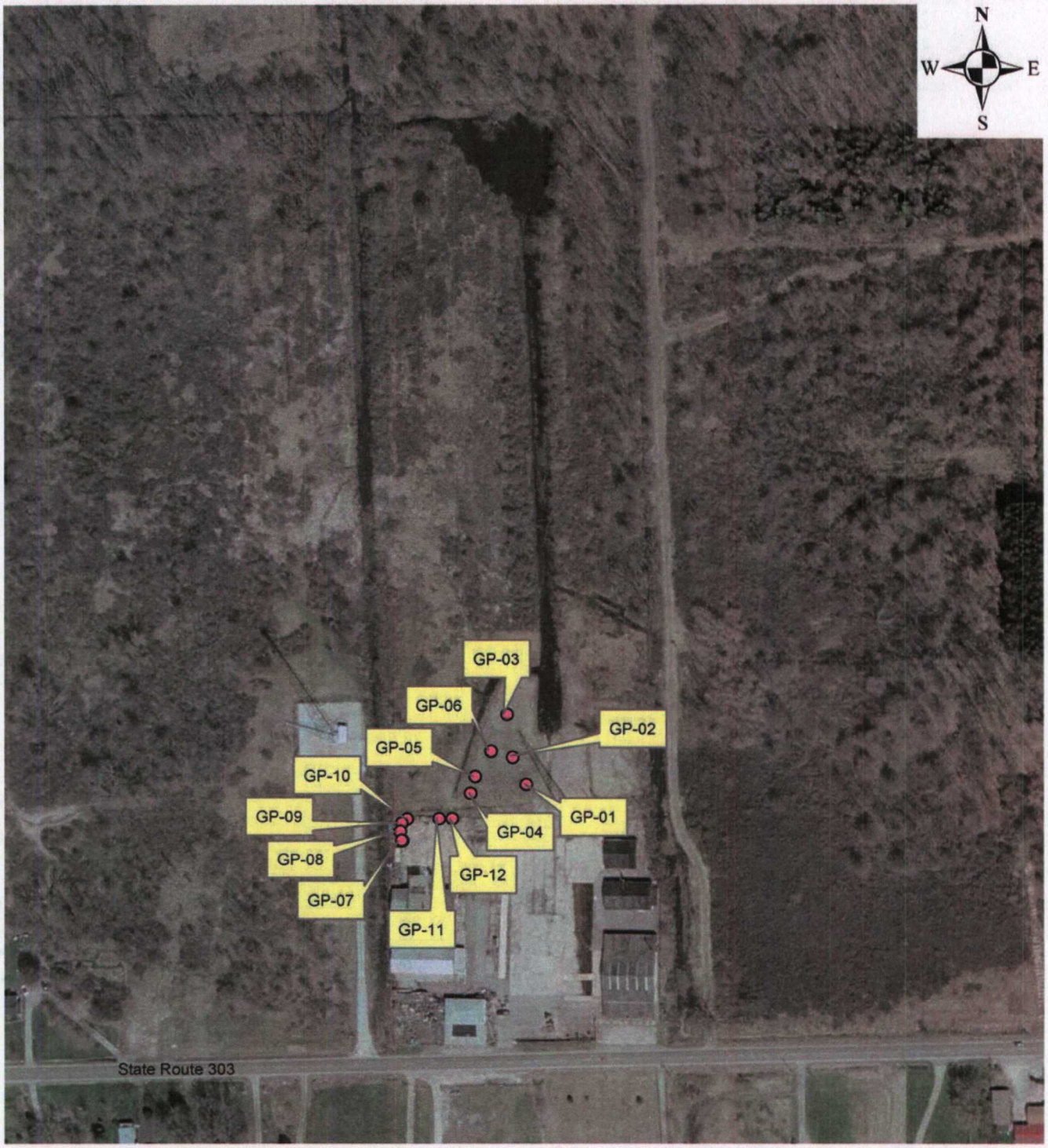
- Approximate Surface Water/ Sediment Sample Area
- Ground Water Sample
- Soil Sample Area

WINDHAM ALLOYS
WINDHAM, PORTAGE COUNTY, OHIO
SAMPLING LOCATION MAP

FIGURE 3: SAMPLE LOCATION MAP

Ohio Environmental Protection Agency

0 50 100 200 300 400 Feet



LEGEND

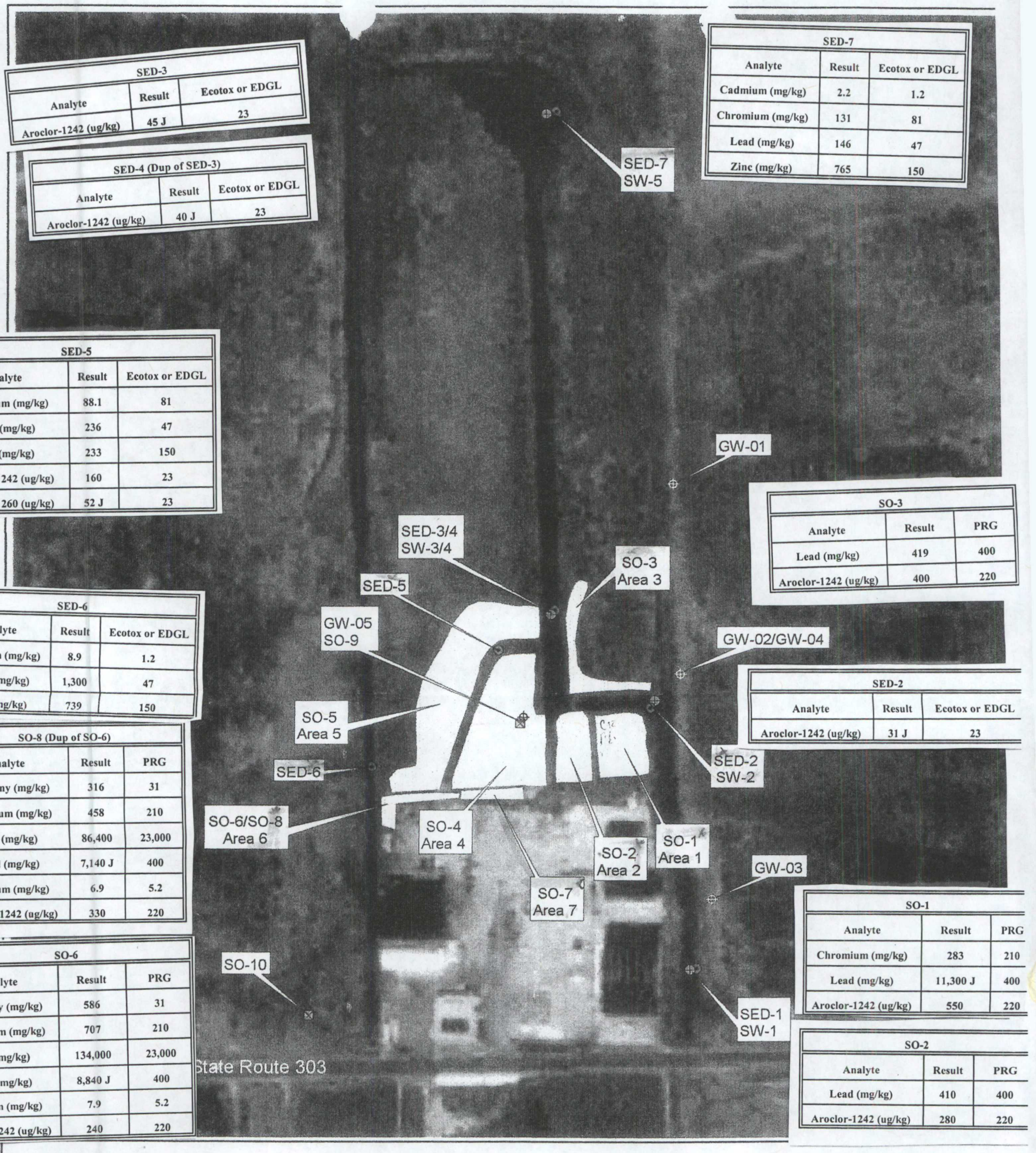
● Geoprobe™ Sample Location

WINDHAM ALLOYS
WINDHAM, PORTAGE COUNTY, OHIO
GEOPROBE™ LOCATION MAP

FIGURE 4: GEOPROBE™ SAMPLE LOCATIONS

Ohio Environmental Protection Agency

0 50 100 200 300 400 Feet



SED-3		
Analyte	Result	Ecotox or EDGL
Aroclor-1242 (ug/kg)	45 J	23

SED-4 (Dup of SED-3)		
Analyte	Result	Ecotox or EDGL
Aroclor-1242 (ug/kg)	40 J	23

SED-7		
Analyte	Result	Ecotox or EDGL
Cadmium (mg/kg)	2.2	1.2
Chromium (mg/kg)	131	81
Lead (mg/kg)	146	47
Zinc (mg/kg)	765	150

SED-5		
Analyte	Result	Ecotox or EDGL
Chromium (mg/kg)	88.1	81
Lead (mg/kg)	236	47
Zinc (mg/kg)	233	150
Aroclor-1242 (ug/kg)	160	23
Aroclor-1260 (ug/kg)	52 J	23

SO-3		
Analyte	Result	PRG
Lead (mg/kg)	419	400
Aroclor-1242 (ug/kg)	400	220

SED-6		
Analyte	Result	Ecotox or EDGL
Cadmium (mg/kg)	8.9	1.2
Lead (mg/kg)	1,300	47
Zinc (mg/kg)	739	150

SED-2		
Analyte	Result	Ecotox or EDGL
Aroclor-1242 (ug/kg)	31 J	23

SO-8 (Dup of SO-6)		
Analyte	Result	PRG
Antimony (mg/kg)	316	31
Chromium (mg/kg)	458	210
Iron (mg/kg)	86,400	23,000
Lead (mg/kg)	7,140 J	400
Thallium (mg/kg)	6.9	5.2
Aroclor-1242 (ug/kg)	330	220

SO-1		
Analyte	Result	PRG
Chromium (mg/kg)	283	210
Lead (mg/kg)	11,300 J	400
Aroclor-1242 (ug/kg)	550	220

SO-6		
Analyte	Result	PRG
Antimony (mg/kg)	586	31
Chromium (mg/kg)	707	210
Iron (mg/kg)	134,000	23,000
Lead (mg/kg)	8,840 J	400
Thallium (mg/kg)	7.9	5.2
Aroclor-1242 (ug/kg)	240	220

SO-2		
Analyte	Result	PRG
Lead (mg/kg)	410	400
Aroclor-1242 (ug/kg)	280	220

Key:

- Soil Composite Areas
- Groundwater Sample
- Sediment Sample
- Surface Water Sample
- Soil Sample

Figure 3: Sample Location Map
Windham Alloy Metal Company IA
Sampled Feb. 27, 2001

100 0 100 200 Feet

N

SO-7		
Analyte	Result	PRG
Antimony (mg/kg)	203	31
Chromium (mg/kg)	528	210
Iron (mg/kg)	65,800	23,000
Lead (mg/kg)	5,850 J	400
Nickel (mg/kg)	1,730	1,600
Thallium (mg/kg)	7.0	5.2
Aroclor-1242 (ug/kg)	240	220

Appendix A

Analytical Data

WINDHAM ALLOYS - SUPPLEMENTAL ESI

SOIL ANALYTICAL RESULTS

Sample Number :	ME1593		ME1594		ME1595		ME1596		ME1597		ME1598		ME1599		ME1600		ME1601		ME1602		ME1603		ME1604		ME1605		U.S. EPA Region 9 Preliminary Remediation Goals (PRGs)* -OR- Site Specific Background Level (SS-BKG)
Sampling Location :	SS-01		SS-01A		SS-02A		SS-02B		SS-03		SS-04		SS-05		SS-06A		SS-06B		DS-04-2		DS-07-1		DS-07-4		SS-BKG		
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		
Date Sampled :	7/18/2006		7/18/2006		7/18/2006		7/18/2006		7/17/2006		7/17/2006		7/17/2006		7/17/2006		7/17/2006		7/18/2006		7/18/2006		7/18/2006		7/18/2006		
%Solids :	97.8		98		95.2		95.1		99		99.1		98.9		98.4		98.7		99.2		99.3		96.4		98.9		
Dilution Factor :	1		1		1		1		1		1		1		1		1		1		1		1		1		
ANALYTE	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	
ALUMINUM	12500		13200		14000		15200		8390		7620		7450		8330		8360		6990		6310		9360		6950		7,600
ANTIMONY	2.6	J	3.7	J	5.8	J	5.7	J	2.6	J	4.5	J	7.9	J	14.6	J	17.7	J	1.05	J	227	J	6.2	UJ	6.1	UJ	31
ARSENIC	11.8		12.1		11		10.6		13		12.1		14.7		14		13.7		10.6		40.8		10.7		10		10
BARIUM	176	J+	168	J+	226	J+	235	J+	101	J+	69.8	J+	139	J+	205	J+	198	J+	64.1	J+	114	J+	92.1	J+	68.6	J+	540
BERYLLIUM	0.91		0.86		1.1		1.1		0.51		0.41	J	0.41	J	0.5	J	0.52		0.38	J	0.55		0.58		0.48	J	15
CADMIUM	0.95	J+	0.93	J+	1.3	J+	1.4	J+	0.53	J+	0.49	J+	0.66	J+	0.97	J+	1.1	J+	0.42	J+	11.3		0.61	J+	0.35	J+	3.7
CALCIUM	6050		7180		6550		6730		6950		8560		14600		23700		24300		6340		18900		10900		3990		N/A
CHROMIUM	22.7		23.4		45.7		31.3		40.6		54.7		261		331		371		47		1270		15.8		14.1		210
COBALT	10.8		6.1		6.4		6.7		8.2		8.9		8.5		8.5		8.2		8.2		27.7		8.2		7.2		900
COPPER	117		151		125		166		68.5		94.2		217		350		322		121		9040		81.7		31.7		310
IRON	16700		16700		14300		17100		19700		22200		21200		21200		21000		20000		208000		20000		17400		17400
LEAD	99.5		114		220		176		108		209		727		1030		1170		128		3670		30.8		42		400
MAGNESIUM	2430		2850		2020		2190		3260		3730		4220		4800		4860		3150		5700		3950		2180		N/A
MANGANESE	410		305		218		243		319		383		427		483		550		397		2300		334		372		372
MERCURY	0.1	U	0.11	U	0.17		0.19		0.11	U	0.1	U	0.1	U	0.12	U	0.13	U	0.12	U	18.1		0.1	U	0.1	U	2.3
NICKEL	25.6	J	27.8	J	26.9	J	29.6	J	26.6	J	34.2	J	31	J	42.2		45.7		26.5		1270		23.6		19.9		160
POTASSIUM	1080	J	1190	J	982	J	1110	J	1000	J	1210	J	1160	J	1580	J	1570	J	936	J	427	J	1150	J	820	J	N/A
SELENIUM	3.6	U	3.5	U	3.6	U	1.9	J	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.6	U	3.5	U	39
SILVER	1	UJ	1	UJ	1	UJ	1	UJ	0.99	UJ	0.99	UJ	0.27	J-	0.42	J-	0.31	J-	0.24	J-	1.25	J-	1	UJ	0.41	J-	39
SODIUM	512	UJ	501	UJ	515	UJ	521	UJ	496	UJ	495	UJ	501	UJ	107	J	110	J	80.7	J	163	J	93.3	J	76	J	N/A
THALLIUM	2.6	U	2.5	U	2.6	U	2.6	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	R	2.6	U	2.5	U	0.52
VANADIUM	20.9		21.7		21.4		23.4		16.1		14.6		15.1		17.1		16.6		12.9		39.8		16.4		13.6		13.6
ZINC	140		144		167		188		108		117		184		377		281		130		2380		97.8		101		2300
CYANIDE	2.6	U	0.2	J	0.26	J	0.24	J	0.14	J	0.17	J	0.093	J	2.5	U	0.2	J	0.28	J	0.24	J	2.6	U	0.25	J	120

* = Note: Direct Contact Exposure Pathway used for Residential Soil. If chemical is non-cancer (nc) it was adusted by multiplying by 0.1.

WINDHAM ALLOYS - SUPPLEMENTAL ESI

SEDIMENT ANALYTICAL RESULTS

Sample Number :	ME1580		ME1581		ME1582		ME1583		ME1584		ME1585		ME1586		ME1587		ME1588		ME1589		ME1590		ME1591		Ohio EPA Sediment Reference Value -OR- Site Specific Background Level (SE-11)
Sampling Location :	SE-01		SE-02		SE-03		SE-04		SE-05		SE-06		SE-07		SE-08		SE-09		SE-10		SE-11		SE-04A		
Matrix :	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		
Date Sampled :	7/19/2006		7/20/2006		7/20/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		
%Solids :	24.7		29.6		26.1		18.1		35.7		18.2		48.6		78.7		21		33.3		19.3		18.7		
Dilution Factor :	1		1		1		1		1		1		1		1		1		1		1		1		
ANALYTE	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	
ALUMINUM	11400		13100		15400		13300		12500		13900		11700		5650		15000		10400		14000		14700		29,000
ANTIMONY	44.7	J	36.4	J	9.8	J	33	UJ	16.6	UJ	7.5	J	9.3	J-	1.7	J-	5.4	J	6	J-	31.3	UJ	32.3	UJ	1.3
ARSENIC	21.8		17.1		16.4		22.8		19.3	J-	21.4		14.2	J-	7.6	J-	22.4		18	J-	41.8		25.8		41.8
BARIUM	178	J+	197	J+	199	J+	198	J+	198	J+	155	J+	159	J+	46.2	J+	199	J+	150	J+	217	J+	203	J+	217
BERYLLIUM	0.7	J	0.78	J	0.92	J	0.82	J	1.1	J	0.72	J	0.65	J	0.32	J	0.86	J	0.62	J	1.3	J	0.89	J	1.3
CADMIUM	4	J	2.9	J	2.2	J	1.9	J	1.4	J+	2.8	J	1.8	J+	0.41	J+	2.7	J	2.5	J+	2.5	J+	2.6	J	2.5
CALCIUM	19300		9380		13700		10700		7610		7720		12400		8230		24500		14400		8380		12700		21000
CHROMIUM	33.8		35.5		30.2		28.1		29		103		159		15		41.1		39.6		31.6		28.8		31.6
COBALT	10.1	J	8	J	11.6	J	9.1	J	8.2	J	16.4	J	11.6		6.6		15.8	J	11.5	J	11.6	J	12.4	J	12
COPPER	132		82.4		61.4		82.6		52.9		141		244		72.4		533		505		188		79.7		188
IRON	28400		23200		32000		39700		30000		41400		27300		15200		41000		30700		96200		43200		96200
LEAD	788		514		185		93.8		37.5		108		228		83		345		311		103		87.5		103
MAGNESIUM	4070		3180		4120		3070		3120		3060		4200		2030		6580		4260		2600	U	3750		7100
MANGANESE	273		198		302		170		193		229		387		240		495		452		248		188		1500
MERCURY	0.4	U	0.34	U	0.38	U	0.56	U	0.28	U	0.55	U	0.22	U	0.12	U	0.45	U	2.6		0.52	U	0.54	U	0.12
NICKEL	257	J	47.4	J	58.6	J	39.8	J	27.4	J	56.8	J	33.5	J	16.1	J	46.2	J	32.1	J	42.4	J	47.3	J	42.4
POTASSIUM	2020	UJ	1690	UJ	1920	UJ	2750	UJ	1390	UJ	2690	UJ	1230	J	634	J	2330	UJ	1500	UJ	2600	UJ	2690	UJ	6800
SELENIUM	14.2	U	11.8	U	13.5	U	19.3	U	9.7	U	18.9	U	7.1	U	4.4	U	16.3	U	10.5	U	5.7	J	18.8	U	5.7
SILVER	4	U	3.4	U	3.8	U	5.5	U	2.8	UJ	5.4	U	2	UJ	1.3	UJ	1.2	J-	1.3	J-	2.4	J-	5.4	U	2.4
SODIUM	2020	UJ	1690	UJ	1920	UJ	2750	UJ	1390	UJ	2690	UJ	1010	UJ	629	UJ	2330	UJ	1500	UJ	2600	UJ	2690	UJ	N/A
THALLIUM	10.1	U	8.4	U	9.6	U	13.8	U	6.9	UJ	13.5	U	5	UJ	3.1	UJ	11.7	U	7.5	UJ	13	U	13.4	U	8.3
VANADIUM	24.3		24.7		29.9		34		23.5		29.1		24.3		11.1		33.8		27.2		38.5		35.9		40
ZINC	553		317		246		181		123		553		282		92		462		454		245		253		245
CYANIDE	15.2		1.4	J	4.1	J	15.2		0.26	J	13.7	U	0.84	J	0.12	J	16.5		7	J	0.61	J	13.2	J	0.61

WINDHAM ALLOYS - SUPPLEMENTAL ESI

SURFACE WATER ANALYTICAL RESULTS

Sample Number	ME1606		ME1607		ME1608		ME1609		ME1610		ME1611		ME1612		ME1614		
Sample Location	SW-01		SW-02		SW-03		SW-04		SW-05		SW-06		SW-07		SW-08		
Sample Description	Ditch 2		Pond		Pond		Ditch 7		Ditch 8 & 9		Ditch 10		Ditch 3		Background		
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		
Units	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		
Date Sampled	7/18/2006		7/18/2006		7/18/2006		7/18/2006		7/18/2006		7/18/2006		7/18/2006		7/18/2006		
% Solids	0		0		0		0		0		0		0		0		
Dilution Factor	1		1		1		1		1		1		1		1		
Analyte	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Ohio River Basin Screening Values[1]**
ALUMINUM	31700		200	U	200	U	200	U	655		858		1030		1360		N/A
ANTIMONY	60	U	60	U	60	U	60	U	60	U	60	U	60	U	60	U	190
ARSENIC	94		10	U	10	U	10	U	8.7	J-	10.5	J-	6.1	J-	28.7		150
BARIUM	1310		41.2	J	40.2	J	46.9	J	68.1	J	73.2	J	108	J	111	J	220
BERYLLIUM	3.1	J+	5	U	5	U	5	U	0.13	J	0.12	J	0.12	J	0.34	J	72,20
CADMIUM	14	J+	5	U	5	U	5	U	5	U	5	U	0.59	J	0.71	J	6.1,3.2*
CALCIUM	133000		29900		29300		40500		56100		59100		74500		49900		N/A
CHROMIUM	51.4		1.8	J	1.5	J	1.2	J	3.9	J	3.3	J	2.5	J	6.1	J	223,113*
COBALT	35.3	J	50	U	50	U	1.5	J	2.8	J	4.8	J	2.6	J	5.9	J	24
COPPER	292		8.5	J	5.7	J	5.8	J	24.6	J	17.3	J	10.5	J	38.1		25,12*
IRON	232000		1750		1690		3400		9210		12300		13000		69400		N/A
LEAD	688		10	U	10	U	10	U	9	J-	8.2	J-	10.1	J-	9.4	J-	28,10*
MAGNESIUM	23300		5200		5120		6940		9430		10100		13300		7570		N/A
MANGANESE	6170		169		163		1040		736		1390		1300		245		N/A
MERCURY	0.52	J+	0.18	J+	0.2	U	0.2	U	0.2	U	0.085	J+	0.2	U	0.2	U	0.012
NICKEL	93.2		4.1	J	3.9	J	3.5	J	7.7	J	7.6	J	8.2	J	18.6	J	140,69*
POTASSIUM	11100	J	2540	J	2480	J	2580	J	3400	J	2970	J	5120	J	5000	UJ	N/A
SELENIUM	35	U	35	U	35	U	35	U	35	U	35	U	35	U	35	U	5
SILVER	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	1.3
SODIUM	84700		21400		20700		28600		41700		54400		58100		79600		N/A
THALLIUM	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	6.3
VANADIUM	76.8		50	U	50	U	50	U	2.9	J	3.1	J	2.7	J	7.5	J	44
ZINC	1230		34	J	36.8	J	48.4	J	72.1		71.5		81.4		101		321,159*
CYANIDE	0.98	J	1.8	J	0.97	J	6.6	J	1.2	J	4.3	J	0.93	J	3.9	J	12

1 - Screening Levels are for the Outside Mixing Zone Average or Human Health (nondrink), whichever is the lower standard.

* - Values calculated using Table 7-9 of OAC 3745-1-07. 1st criteria for West Ditch using average of SW-01 & SW-07. 2nd criteria for East Ditch using average of SW-02, SW-03, SW-04, SW-05, SW-06, SW-08.

WINDHAM ALLOYS - SUPPLEMENTAL ESI

GROUND WATER ANALYTICAL RESULTS

Sample Number	ME1572		ME1573		ME1574		ME1575		ME1576		ME1577		ME1578		ME1579		ME1613		
Sample Location	GW-01		GW-02		GW-03		GW-04		GW-05		GW-06		GW-07		GW-08		GW-09		
Sample Description	MW-4		MW-2		MW-3		MW-2		MW-3		PW-4		PW-3		Res Well		MW-4		
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		Water		
Units	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		
Date Sampled	7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006		7/19/2006				
% Solids	0		0		0		0		0		0		0		0		0		
Dilution Factor	1		1		1		1		1		1		1		1		1		
Analyte	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Maximum Contaminant Levels (MCLs) OR Treatment Technique***
ALUMINUM	200	U	206		200	U	200	U	200	U	200	U	200	U	200	U	200	R	N/A
ANTIMONY	60	U	60	U	60	U	60	U	60	U	60	U	60	U	60	U	60	R	N/A
ARSENIC	6.3	J-	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	R	10
BARIUM	85.8	J	141	J	73.6	J	120	J	80.8	J	87.6	J	84.2	J	74	J	76.4	J-	2000
BERYLLIUM	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	200	R	4
CADMIUM	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	R	5
CALCIUM	59900		99800		77600		84600		84700		99000		79000		65300		61800	J-	N/A
CHROMIUM	2.1	J	10.8		12.3		3.6	J	21.9		1.5	J	10	U	0.82	J	1.2	J-	1000
COBALT	50	U	5	J	17	J	50	U	21.4	J	50	U	50	U	50	U	50	R	N/A
COPPER	3.3	J	4.8	J	0.69	J	1.5	J	2.1	J	14.2	J	3210		104		1.7	J-	1,300*
IRON	5300		1000		2060		75.1	J	2310		5760		2820		2950		1140	J-	N/A
LEAD	10	U	10	U	10	U	10	U	10	U	10	U	319		201		10	R	15*
MAGNESIUM	16300		27000		21600		22700		23600		26100		21200		18300		16700	J-	N/A
MANGANESE	455		374		218		300		239		327		240		197		254	J-	N/A
MERCURY	0.2	U	0.65	J+	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	R	2
NICKEL	2	J	3.8	J	8.8	J	40	U	12.3	J	40	U	9.4	J	3.1	J	40	R	N/A
POTASSIUM	5000	UJ	5000	UJ	7000	J	5000	UJ	8200	J	2770	J	1800	J	1420	J	5000	R	N/A
SELENIUM	35	U	35	U	35	U	35	U	35	U	35	U	35	U	35	U	35	R	50
SILVER	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	R	N/A
SODIUM	10800		48000		30700		42800		33100		54600		25100		15800		9360	J-	N/A
THALLIUM	7.6	J	25	U	25	U	25	U	25	U	9	J	25	U	25	U	25	R	2
VANADIUM	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	R	N/A
ZINC	90.8		45.1	J	36.9	J	28.2	J	33	J	51.4	J	205		57	J	29.8	J-	N/A
CYANIDE	37.5		1.6	J	10	U	21		10	U	10	U	10	U	1.7	J	3.4	J-	200

* - Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

ATEL

Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Client #: 10231
Kemron - Marietta OH
156 Starlight Park
Marietta, OH 45750

Report Date: *11-Oct-06*

Attn:

Phone: (740) 373-4071 **Ext:** 175
FAX: (740) 373-4835

Our Lab #: 06-15769
Your Sample ID: PW-3
Date Logged-In: 9/21/06
Sample Source: SDWA/WTP's
Sample Type: Drinking Water
Client Project #:
Project #:
Date Submitted to Lab: 9/19/2006 **PO#:**

- COLLECTION INFORMATION -

Date/Time/By: 9/13/2006 12:58 PM ANDREW KOCHER

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
				TCL METALS LIST		
200.7						
	LLJ		9/25/2006	Aluminum, Al	< 200 µg/L	200
	LLJ		9/25/2006	Calcium, Ca	91 mg/L	0.1
	LLJ		9/25/2006	Cobalt, Co	< 20 µg/L	20
	LLJ		9/25/2006	Iron, Fe	3100 µg/L	40
	LLJ		9/25/2006	Magnesium, Mg	23 mg/L	0.1
	LLJ		9/25/2006	Manganese, Mn	291 µg/L	10
	LLJ		9/27/2006	Potassium, K	< 3.0 mg/L	3.0
	LLJ		9/27/2006	Silver, Ag	< 20 µg/L	20
	LLJ		9/25/2006	Sodium, Na	35 mg/L	0.4
	LLJ		9/25/2006	Vanadium, V	< 20 µg/L	20
	LLJ		9/25/2006	Zinc, Zn	15 µg/L	10
200.8						
	RCM		9/21/2006	Antimony, Sb	< 3.0 µg/L	3
	RCM		9/21/2006	Arsenic, As	9.9 µg/L	3
	RCM		9/21/2006	Barium, Ba	93 µg/L	10

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Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Lab Number 06-15769 -Continued from Previous Page

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
200.8	*(Continued from previous page).*					
	RCM		9/21/2006	Beryllium, Be	< 0.5 µg/L	0.5
	RCM		9/21/2006	Cadmium, Cd	< 0.5 µg/L	0
	RCM		9/21/2006	Chromium, Cr	< 10 µg/L	10
	RCM		9/21/2006	Copper, Cu	39 µg/L	10
	RCM		9/21/2006	Lead, Pb	3.3 µg/L	2
	RCM		9/21/2006	Nickel, Ni	< 10 µg/L	10
	RCM		9/21/2006	Selenium, Se	< 3.0 µg/L	3
	RCM		9/21/2006	Thallium, Tl	< 1.0 µg/L	1.0
245.2						
	DLQ		10/6/2006	Mercury, Hg	< 8.0 µg/L	8.0

«-- End of Report --»

Total Pages in Report: 2

Report Approved By:

Michael J. Herdlick
Vice President, Technical Services

The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.

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Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Client #: 11231
Medina Sod-Orrville
14349 Burton City Rd
Orrville, OH 44667

Report Date: *11-Oct-06*

Phone: (800) 683-1686 **Ext:**

Attn: Rob Shover **FAX:**

Our Lab #: 06-15770 **Your Sample ID:** PW-3D
Date Logged-In: 9/21/06 **Sample Source:** SDWA/WTP's
Sample Type: Drinking Water **Client Project #:**
Project #: **Date Submitted to Lab:** 9/19/2006 **PO#:**

- COLLECTION INFORMATION -

Date/Time/By: 9/13/2006 1:00 AM ANDREW KOCHER

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
				TCL METALS LIST		
200.7						
	LLJ		9/25/2006	Aluminum, Al	< 200 µg/L	200
	LLJ		9/25/2006	Calcium, Ca	91 mg/L	0.1
	LLJ		9/25/2006	Cobalt, Co	< 20 µg/L	20
	LLJ		9/25/2006	Iron, Fe	3100 µg/L	40
	LLJ		9/25/2006	Magnesium, Mg	23 mg/L	0.1
	LLJ		9/25/2006	Manganese, Mn	295 µg/L	10
	LLJ		9/27/2006	Potassium, K	< 3.0 mg/L	3.0
	LLJ		9/27/2006	Silver, Ag	< 20 µg/L	20
	LLJ		9/25/2006	Sodium, Na	35 mg/L	0.4
	LLJ		9/25/2006	Vanadium, V	< 20 µg/L	20
	LLJ		9/25/2006	Zinc, Zn	17 µg/L	10
200.8						
	RCM		9/21/2006	Antimony, Sb	< 3.0 µg/L	3
	RCM		9/21/2006	Arsenic, As	9.5 µg/L	3
	RCM		9/21/2006	Barium, Ba	93 µg/L	10

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Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Lab Number 06-15770 -Continued from Previous Page

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
200.8	*(Continued from previous page).*					
	RCM		9/21/2006	Beryllium, Be	< 0.5 µg/L	0.5
	RCM		9/21/2006	Cadmium, Cd	< 0.5 µg/L	0
	RCM		9/21/2006	Chromium, Cr	< 10 µg/L	10
	RCM		9/21/2006	Copper, Cu	44 µg/L	10
	RCM		9/21/2006	Lead, Pb	3.2 µg/L	2.0
	RCM		9/21/2006	Nickel, Ni	< 10 µg/L	10
	RCM		9/21/2006	Selenium, Se	< 3.0 µg/L	3
	RCM		9/21/2006	Thallium, Tl	< 1.0 µg/L	1.0
245.2						
	DLQ		10/6/2006	Mercury, Hg	< 8.0 µg/L	8.0

«-- End of Report --»

Total Pages in Report: 2

Report Approved By:

Michael J. Herdlick
Vice President, Technical Services

The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.

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ATEL

Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Client #: I0231
Kemron - Marietta OH
156 Starlight Park
Marietta, OH 45750

Report Date: *11-Oct-06*

Phone: (740) 373-4071 **Ext:** 175
FAX: (740) 373-4835

Attn:

Our Lab #: 06-15771 **Your Sample ID:** PW-4
Date Logged-In: 9/21/06 **Sample Source:** SDWA/WTP's
Sample Type: Drinking Water **Client Project #:**
Project #: **Date Submitted to Lab:** 9/19/2006 **PO#:**

- COLLECTION INFORMATION -

Date/Time/By: 9/13/2006 1:09 AM ANDREW KOCHER

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
				TCL METALS LIST		
200.7						
	LLJ		9/25/2006	Aluminum, Al	< 200 µg/L	200
	LLJ		9/25/2006	Calcium, Ca	120 mg/L	0.1
	LLJ		9/25/2006	Cobalt, Co	< 20 µg/L	20
	LLJ		9/25/2006	Iron, Fe	6400 µg/L	40
	LLJ		9/25/2006	Magnesium, Mg	29 mg/L	0.1
	LLJ		9/25/2006	Manganese, Mn	391 µg/L	10
	LLJ		9/27/2006	Potassium, K	< 3.0 mg/L	3.0
	LLJ		9/27/2006	Silver, Ag	< 20 µg/L	20
	LLJ		9/25/2006	Sodium, Na	78 mg/L	0.4
	LLJ		9/25/2006	Vanadium, V	< 20 µg/L	20
	LLJ		9/25/2006	Zinc, Zn	< 10 µg/L	10
200.8						
	RCM		9/21/2006	Antimony, Sb	< 3.0 µg/L	3
	RCM		9/21/2006	Arsenic, As	7.3 µg/L	3
	RCM		9/21/2006	Barium, Ba	99 µg/L	10

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- CERTIFICATE OF ANALYSIS -

Lab Number 06-15771 -Continued from Previous Page

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
200.8	*(Continued from previous page).*					
	RCM		9/21/2006	Beryllium, Be	< 0.5 µg/L	0.5
	RCM		9/21/2006	Cadmium, Cd	< 0.5 µg/L	0
	RCM		9/21/2006	Chromium, Cr	11 µg/L	10
	RCM		9/21/2006	Copper, Cu	21 µg/L	10
	RCM		9/21/2006	Lead, Pb	2.5 µg/L	2.0
	RCM		9/21/2006	Nickel, Ni	< 10 µg/L	10
	RCM		9/21/2006	Selenium, Se	< 3.0 µg/L	3
	RCM		9/21/2006	Thallium, Tl	< 1.0 µg/L	1
245.2						
	DLQ		10/6/2006	Mercury, Hg	< 8.0 µg/L	8.0

«— End of Report —»

Total Pages in Report: 2

Report Approved By:

Michael J. Herdlick
Vice President, Technical Services

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Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Client #: I0231
Kenuron - Marietta OH
156 Starlight Park
Marietta, OH 45750

Report Date: *11-Oct-06*

Phone: (740) 373-4071 **Ext:** 175
FAX: (740) 373-4835

Attn:

Our Lab #: 06-15772
Date Logged-In: 9/21/06
Sample Type: Drinking Water
Project #:

Your Sample ID: HILL WATER WELL
Sample Source: SDWA/WTP's
Client Project #:
Date Submitted to Lab: 9/19/2006 **PO#:**

- COLLECTION INFORMATION -

Date/Time/By: 9/13/2006 1:26 AM ANDREW KOCHER

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
				TCL METALS LIST		
200.7						
	LLJ		9/25/2006	Aluminum, Al	< 200 µg/L	200
	LLJ		9/25/2006	Calcium, Ca	< 0.1 mg/L	0.1
	LLJ		9/25/2006	Cobalt, Co	< 20 µg/L	20
	LLJ		9/25/2006	Iron, Fe	< 40 µg/L	40
	LLJ		9/25/2006	Magnesium, Mg	< 0.1 mg/L	0.1
	LLJ		9/25/2006	Manganese, Mn	14 µg/L	10
	LLJ		9/27/2006	Potassium, K	< 3.0 mg/L	3.0
	LLJ		9/27/2006	Silver, Ag	< 20 µg/L	20
	LLJ		9/25/2006	Sodium, Na	< 0.4 mg/L	0.4
	LLJ		9/25/2006	Vanadium, V	< 20 µg/L	20
	LLJ		9/25/2006	Zinc, Zn	< 10 µg/L	10
200.8						
	RCM		9/21/2006	Antimony, Sb	< 3.0 µg/L	3
	RCM		9/21/2006	Arsenic, As	10 µg/L	3
	RCM		9/21/2006	Barium, Ba	77 µg/L	10

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Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Lab Number 06-15772 -Continued from Previous Page

EPA Method	Analyst	Extraction Date	Analysis Date	Parameter	Result	PQL
200.8	*(Continued from previous page).*					
	RCM		9/21/2006	Beryllium, Be	< 0.5 µg/L	0
	RCM		9/21/2006	Cadmium, Cd	< 0.5 µg/L	0
	RCM		9/21/2006	Chromium, Cr	< 10 µg/L	10
	RCM		9/21/2006	Copper, Cu	52 µg/L	10
	RCM		9/21/2006	Lead, Pb	12 µg/L	2
	RCM		9/21/2006	Nickel, Ni	< 10 µg/L	10
	RCM		9/21/2006	Selenium, Se	< 3.0 µg/L	3
	RCM		9/21/2006	Thallium, Tl	< 1.0 µg/L	1
245.2						
	DLQ		10/6/2006	Mercury, Hg	< 8.0 µg/L	8.0

«-- End of Report --»

Total Pages in Report: 2

Report Approved By:

Michael J. Herdlick
Vice President, Technical Services

1776 MARION-WALDO RD. • P.O. BOX 436 • MARION, OH 43301-0436
PHONE 740-389-5991 • 1-800-873-2835 • FAX 740-389-1481

COC No. A 65431

156 Starlite Drive
Marietta, OH 45750

Kemron
ENVIRONMENTAL SERVICES

Phone: 740-373-4071
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CHAIN-OF-CUSTODY RECORD

Company Name: Ohio EPA

Project Contact: Andrew Kocher

Contact Phone #: (330) 963-1249

Turn Around Requirements: 2 weeks

Location: Twinsburg, OH

Project #:

Project Name: Windham Allows

Sampler (print): Andrew Kocher

Signature: [signature]

Program: ☐ NPDES ☐ AFCEE ☐ RCRA ☐ USAGE ☐ Other ______

Make sure Detection Limits are at or below the MCLs.

Sample I.D. No.	Comp*	Grab	Date	Time	Protocol CWA	Protocol SW846	NUMBER OF CONTAINERS	Hold	Total Metals - 200.7	Lab No.
PW-3		x	9/13/06	12:58			1		X	15769
PW-3D		x	9/13/06	1:00			1		X	15770
PW-4		X	9/13/06	1:09			1		X	15771
Hill Water Well		X	9/13/06	1:26			1		X	15772

ADDITIONAL REQUIREMENTS:

Please email results to andrew.kocher@epa.state.oh.us & Mail a hard copy to: NE District Office 2110 E. Aurora Rd. Twinsburg, OH 44087

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
[signature]	9/13/06	7:17 PM	Teresa [signature] 9-14-06 1430				

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Cooler Temp in °C	Remarks:
			Brenda Gregory	9/14/06	0955		

*Homogenize all composite samples prior to analysis

Page ______ of ______

Appendix B

Contract Required Quantitation Limits (CRQL)

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRQLs) for SOM01.1*

	Quantitation Limits				
	Trace Water by SIM (µg/L)	Trace Water (µg/L)	Low Water (µg/L)	Low Soil (µg/kg)	Med. Soil (µg/kg)
VOLATILES					
1. Dichlorodifluoromethane		0.50	5.0	5.0	250
2. Chloromethane		0.50	5.0	5.0	250
3. Vinyl Chloride		0.50	5.0	5.0	250
4. Bromomethane		0.50	5.0	5.0	250
5. Chloroethane		0.50	5.0	5.0	250
6. Trichlorofluoromethane		0.50	5.0	5.0	250
7. 1,1-Dichloroethene		0.50	5.0	5.0	250
8. 1,1,2-Trichloro-1,2,3-trifluoroethane		0.50	5.0	5.0	250
9. Acetone		5.0	10	10	500
10. Carbon Disulfide		0.50	5.0	5.0	250
11. Methyl acetate		0.50	5.0	5.0	250
12. Methylene chloride		0.50	5.0	5.0	250
13. trans-1,2-Dichloroethene		0.50	5.0	5.0	250
14. Methyl tert-butyl ether		0.50	5.0	5.0	250
15. 1,1-Dichloroethane		0.50	5.0	5.0	250
16. cis-1,2-Dichloroethene		0.50	5.0	5.0	250
17. 2-Butanone		5.0	10	10	500
18. Bromochloromethane		0.50	5.0	5.0	250
19. Chloroform		0.50	5.0	5.0	250
20. 1,1,1-Trichloroethane		0.50	5.0	5.0	250
21. Cyclohexane		0.50	5.0	5.0	250
22. Carbon tetrachloride		0.50	5.0	5.0	250
23. Benzene		0.50	5.0	5.0	250
24. 1,2-Dichloroethane		0.50	5.0	5.0	250
25. 1,4-Dioxane	2.0	20	100	100	5000
26. Trichloroethene		0.50	5.0	5.0	250
27. Methylcyclohexane		0.50	5.0	5.0	250
28. 1,2-Dichloropropane		0.50	5.0	5.0	250
29. Bromodichloromethane		0.50	5.0	5.0	250
30. cis-1,3-Dichloropropene		0.50	5.0	5.0	250
31. 4-Methyl-2-pentanone		5.0	10	10	500
32. Toluene		0.50	5.0	5.0	250
33. trans-1,3-Dichloropropene		0.50	5.0	5.0	250
34. 1,1,2-Trichloroethane		0.50	5.0	5.0	250
35. Tetrachloroethene		0.50	5.0	5.0	250
36. 2-Hexanone		5.0	10	10	500
37. Dibromochloromethane		0.50	5.0	5.0	250
38. 1,2-Dibromoethane	0.050	0.50	5.0	5.0	250
39. Chlorobenzene		0.50	5.0	5.0	250

	Quantitation Limits				
	Trace Water by SIM (µg/L)	Trace Water (µg/L)	Low Water (µg/L)	Low Soil (µg/kg)	Med. Soil (µg/kg)
VOLATILES (CON'T)					
40. Ethylbenzene		0.50	5.0	5.0	250
41. o-Xylene		0.50	5.0	5.0	250
42. m, p-Xylene		0.50	5.0	5.0	250
43. Styrene		0.50	5.0	5.0	250
44. Bromoform		0.50	5.0	5.0	250
45. Isopropylbenzene		0.50	5.0	5.0	250
46. 1,1,2,2-Tetrachloroethane		0.50	5.0	5.0	250
47. 1,3-Dichlorobenzene		0.50	5.0	5.0	250
48. 1,4-Dichlorobenzene		0.50	5.0	5.0	250
49. 1,2-Dichlorobenzene		0.50	5.0	5.0	250
50. 1,2-Dibromo-3-chloropropane	0.050	0.50	5.0	5.0	[illegible]
51. 1,2,4-Trichlorobenzene		0.50	5.0	5.0	
52. 1,2,3-Trichlorobenzene		0.50	5.0	5.0	250
SEMIVOLATILES	Low Water by SIM (µg/L)	Low Water (µg/L)	Low Soil by SIM (µg/kg)	Low Soil (µg/kg)	Med. Soil (µg/kg)
53. Benzaldehyde		5.0		170	5000
54. Phenol		5.0		170	5000
55. bis-(2-chloroethyl) ether		5.0		170	5000
56. 2-Chlorophenol		5.0		170	5000
57. 2-Methylphenol		5.0		170	5000
58. 2,2'-Oxybis (1-chloropropane)		5.0		170	5000
59. Acetophenone		5.0		170	5000
60. 4-Methylphenol		5.0		170	5000
61. N-Nitroso-di-n propylamine		5.0		170	5000
62. Hexachloroethane		5.0		170	
63. Nitrobenzene		5.0		170	5000
64. Isophorone		5.0		170	5000
65. 2-Nitrophenol		5.0		170	5000
66. 2,4-Dimethylphenol		5.0		170	5000
67. Bis (2-chloroethoxy) methane		5.0		170	5000
68. 2,4-Dichlorophenol		5.0		170	5000
69. Naphalene	0.10	5.0	3.3	170	5000
70. 4-Chloroaniline		5.0		170	5000
71. Hexachlorobutadiene		5.0		170	5000
72. Caprolactam		5.0		170	5000
73. 4-Chloro-3-methylphenol		5.0		170	5000
74. 2-Methylnapthalene	0.10	5.0	3.3	170	5000
75. Hexachlorocyclopentadiene		5.0		170	5000
76. 2,4,6-Trichlorophenol		5.0		170	5000
77. 2,4,5-Trichlorophenol		5.0		170	5000

* For volatiles, quantitation limits for medium soils are approximately 50 times the quantitation limits for low soils. For semivolatile medium soils, quantitation limits are approximately 50 times the quantitation limits for low soils.

Table 1. Target Compound List (TCL) and Contract Required Quantitation Limits (CRQLs) for SOM01.1* (Con't)

	Quantitation Limits				
	Low Water by SIM (µg/L)	Low Water (µg/L)	Low Soil by SIM (µg/kg)	Low Soil (µg/kg)	Med. Soil (µg/kg)
SEMIVOLATILES (CON'T)					
78. 1,1'-Biphenyl		5.0		170	5000
79. 2-Chloronapthalene		5.0		170	5000
80. 2-Nitroaniline		10		330	10000
81. Dimethylphthalate		5.0		170	5000
82. 2,6-Dinitrotoluene		5.0		170	5000
83. Acenaphthylene	0.10	5.0	3.3	170	5000
84. 3-Nitroaniline		10		330	10000
85. Acenaphthene	0.10	5.0	3.3	170	5000
86. 2,4-Dinitrophenol		10		330	10000
[illegible] Nitrophenol		10		330	10000
[illegible]enzofuran		5.0		170	5000
89. 2,4-Dinitrotoluene		5.0		170	5000
90. Diethylphthalate		5.0		170	5000
91. Fluorene	0.10	5.0	3.3	170	5000
92. 4-Chlorophenyl phenyl ether		5.0		170	5000
93. 4-Nitroaniline		10		330	10000
94. 4,6-Dinitro-2-methylphenol		10		330	10000
95. N-Nitrosodiphenylamine		5.0		170	5000
96. 1,2,4,5-Tetrachlorobenzene		5.0		170	5000
97. 4-Bromophenyl phenyl ether		5.0		170	5000
98. Hexachlorobenzene		5.0		170	5000
99. Atrazine		5.0		170	5000
100. Pentachlorophenol	0.20	10	6.7	330	10000
101. Phenanthrene	0.10	5.0	3.3	170	5000
[illegible]thracene	0.10	5.0	3.3	170	5000
[illegible]rbazole		5.0		170	5000
104. Di-n-butylphthalate		5.0		170	5000
105. Fluoranthene	0.10	5.0	3.3	170	5000
106. Pyrene	0.10	5.0	3.3	170	5000
107. Butylbenzylphthalate		5.0		170	5000
108. 3,3'-Dichlorobenzidine		5.0		170	5000
109. Benzo(a)anthracene	0.10	5.0	3.3	170	5000
110. Chrysene	0.10	5.0	3.3	170	5000
111. Bis(2-ethylhexyl)phthalate		5.0		170	5000
112. Di-n-octylphthalate		5.0		170	5000
113. Benzo(b)fluoranthene	0.10	5.0	3.3	170	5000
114. Benzo(k)fluoranthene	0.10	5.0	3.3	170	5000

	Quantitation Limits				
	Low Water by SIM (µg/L)	Low Water (µg/L)	Low Soil by SIM (µg/kg)	Low Soil (µg/kg)	Med. Soil (µg/kg)
SEMIVOLATILES (CON'T)					
115. Benzo(a)pyrene	0.10	5.0	3.3	170	5000
116. Indeno(1,2,3-cd)pyrene	0.10	5.0	3.3	170	5000
117. Dibenzo(a,h)anthracene	0.10	5.0	3.3	170	5000
118. Benzo(g,h,i)perylene	0.10	5.0	3.3	170	5000
119. 2,3,4,6-Tetrachlorophenol		5.0		170	5000
PESTICIDES	Water (µg/L)			Soil (µg/kg)	
120. alpha-BHC	0.050			1.7	
121. beta-BHC	0.050			1.7	
122. delta-BHC	0.050			1.7	
123. gamma-BHC (Lindane)	0.050			1.7	
124. Heptachlor	0.050			1.7	
125. Aldrin	0.050			1.7	
126. Heptachlor epoxide	0.050			1.7	
127. Endosulfan I	0.050			1.7	
128. Dieldrin	0.10			3.3	
129. 4,4'-DDE	0.10			3.3	
130. Endrin	0.10			3.3	
131. Endosulfan II	0.10			3.3	
132. 4-4'-DDD	0.10			3.3	
133. Endosulfan sulfate	0.10			3.3	
134. 4-4'-DDT	0.10			3.3	
135. Methoxychlor	0.50			17	
136. Endrin ketone	0.10			3.3	
137. Endrin aldehyde	0.10			3.3	
138. alpha-Chlordane	0.050			1.7	
139. gamma-Chlordane	0.050			1.7	
140. Toxaphene	5.0			170	
AROCLORS	Water (µg/L)			Soil (µg/kg)	
141. Aroclor-1016	1.0			33	
142. Aroclor-1221	1.0			33	
143. Aroclor-1232	1.0			33	
144. Aroclor-1242	1.0			33	
145. Aroclor-1248	1.0			33	
146. Aroclor-1254	1.0			33	
147. Aroclor-1260	1.0			33	
148. Aroclor-1262	1.0			33	
149. Aroclor-1268	1.0			33	

* For volatiles, quantitation limits for medium soils are approximately 50 times the quantitation limits for low soils. For semivolatile medium soils, quantitation limits are approximately 30 times the quantitation limits for low soils.

Table 1. Inorganic Target Analyte List and Contract Required Quantitation Limits (CRQLs)

Analyte	ICP-AES CRQL for Water (µg/L)	ICP-AES CRQL for Soil (mg/kg)	ICP-MS CRQL for Water (µg/L)
1. Aluminum	200	20	--
2. Antimony	60	6	2
3. Arsenic	10	1	1
4. Barium	200	20	10
5. Beryllium	5	0.5	1
6. Cadmium	5	0.5	1
7. Calcium	5000	500	--
8. Chromium	10	1	2
9. Cobalt	50	5	1
10. Copper	25	2.5	2
11. Iron	100	10	--
12. Lead	10	1	1
13. Magnesium	5000	500	--
14. Manganese	15	1.5	1
15. Mercury	0.2	0.1	--
16. Nickel	40	4	1
17. Potassium	5000	500	--
18. Selenium	35	3.5	5
19. Silver	10	1	1
20. Sodium	5000	500	--
21. Thallium	25	2.5	1
22. Vanadium	50	5	5
23. Zinc	60	6	2
24. Cyanide	10	2.5	--

Appendix C

Photographic Log

Photo No. 1 Date: 07/19/2006

Collection of the incremental soil samples by stainless steel step probe.

Photo No. 2 Date: 07/19/2006

Collection of the probe soil cores.

Photo No. 3 Date: 07/19/2006

Soil samples drying in the sun.

Photo No. 4 Date: 07/19/2006

Dry soil sample pounded and sieved.

Photo No. 5 Date: 07/19/2006

Close up view of the sample being sieved.

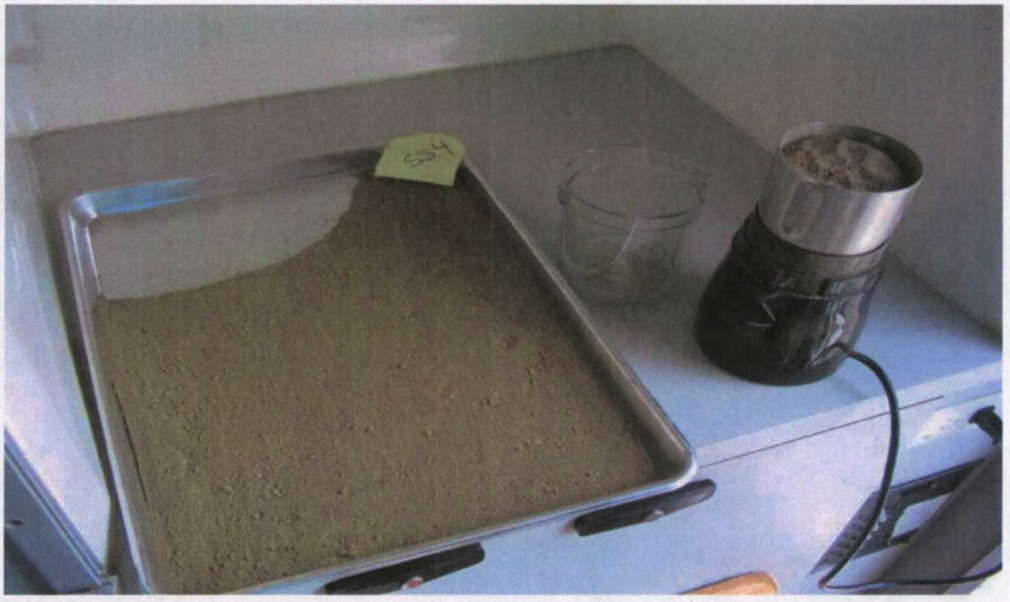


Photo No. 6 Date: 07/19/2006

The dried, sieved soil sample being ground.

Photo No. 7 Date: 07/19/2006

The soil sample after processing (dried, sieved and ground).

Photo No. 8 Date: 07/19/2006

The processed sample being incrementally sub-sampled for lab analysis.

Photo No. 9 Date: 07/19/2006

Soil samples being screened by on-site X-Ray Fluorescence Unit.

Photo No. 10 Date: 07/19/2006

Several soil samples drying in the sun.

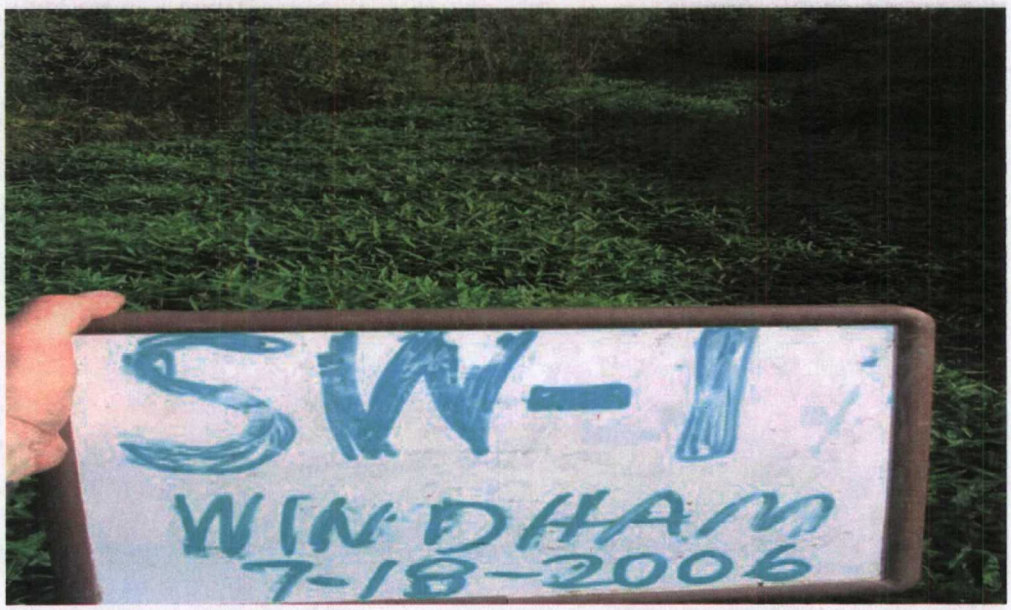


Photo No. 11 Date: 07/18/2006

Sample SW-01 collected from the west side ditch.

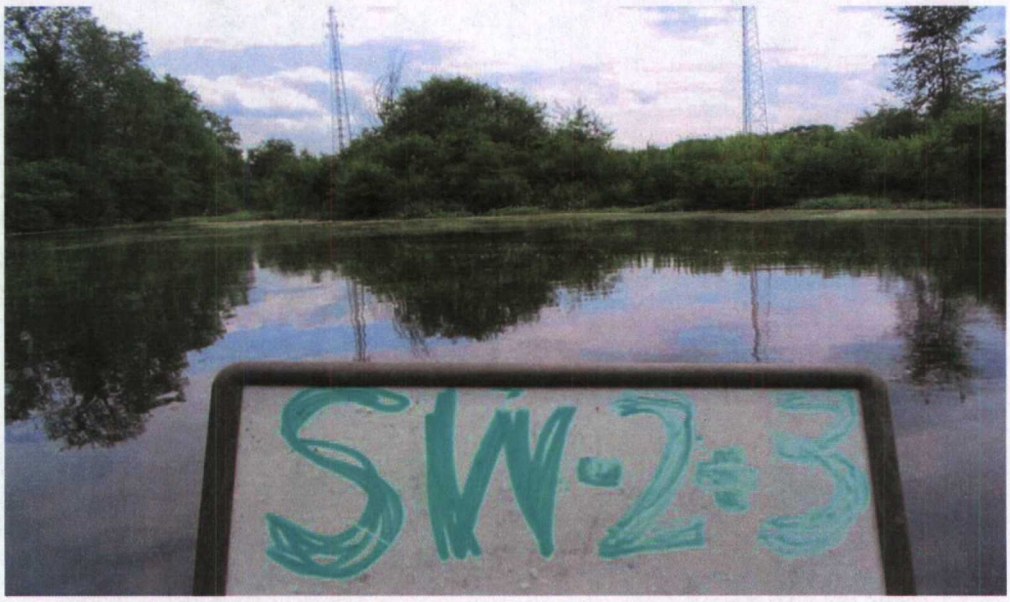


Photo No. 12 Date: 07/18/2006

Samples SW-2 and SW-03, the duplicated, collected from the on-site pond.

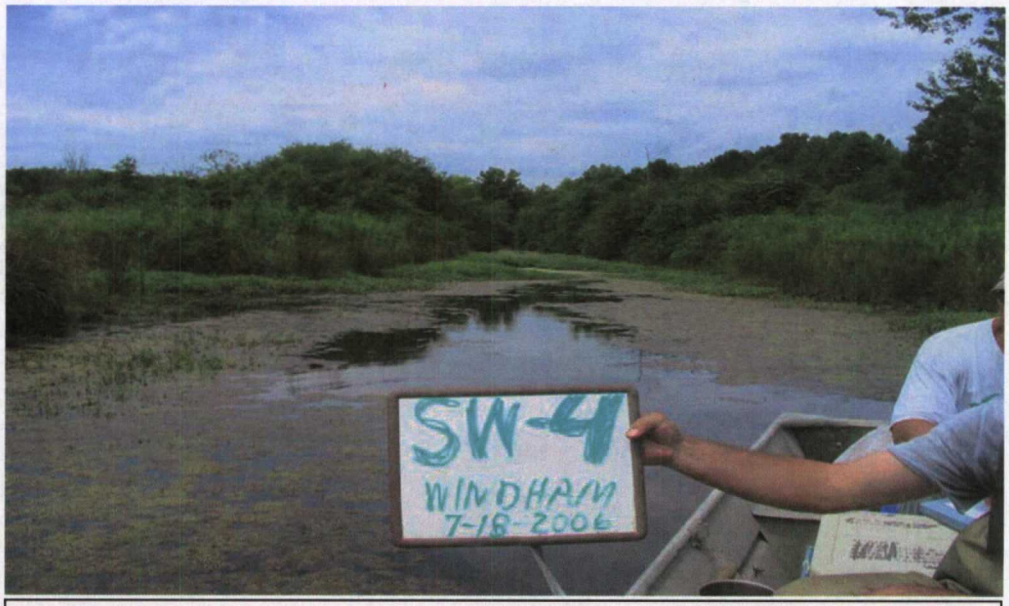


Photo No. 13 Date: 07/18/2006

Location of sample SW-04 collected on the east ditch, south of the pond.

Photo No. 14 Date: 07/18/2006

Location of sample SW-05 collected in the east ditch.

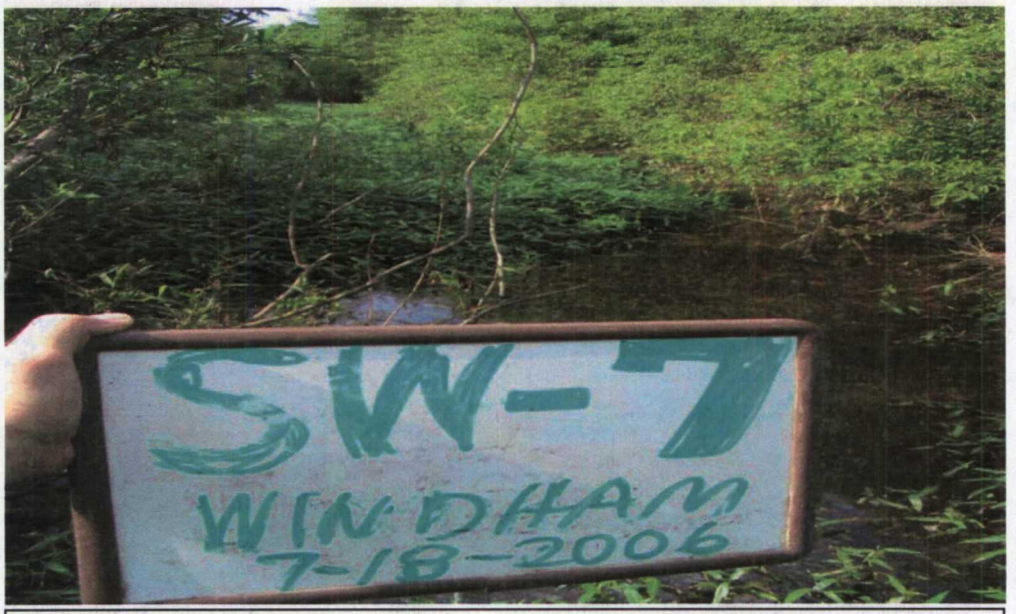


Photo No. 15 Date: 07/18/2006

Location of sample SW-06, the background sample. It was mislabeled in the pictured as SW-07.

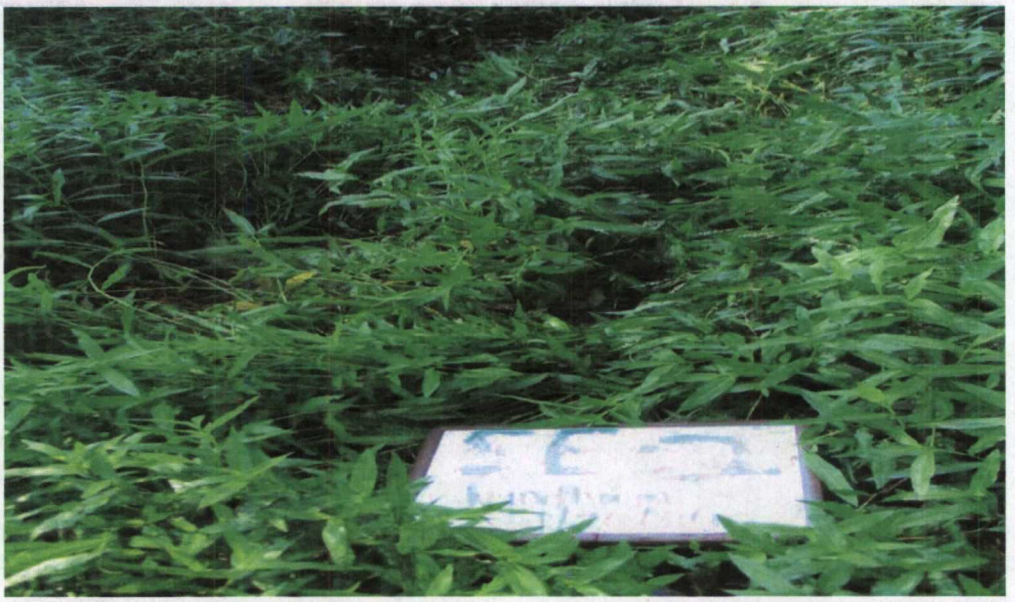


Photo No. 16 Date: 07/18/2006

Sample area of SE-02 in the west ditch.

Photo No. 17 Date: 07/18/2006

Sample area of SE-03 in the west ditch.

Photo No. 18 Date: 10/12/2006

Location of sample SE-04 collected in the northern section of the west ditch.

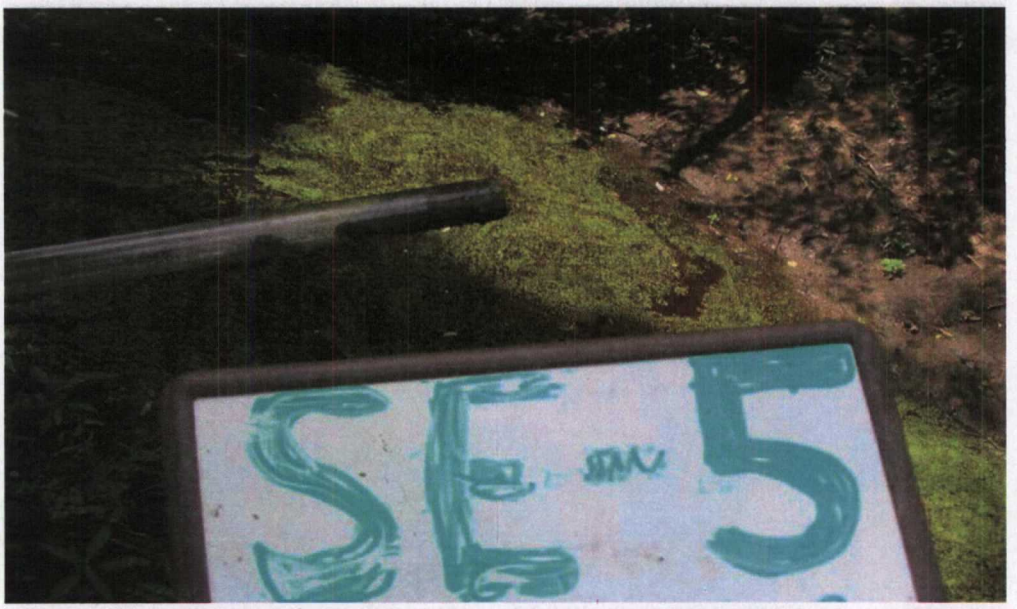


Photo No. 19 Date: 07/18/2006

Location of samples SE-05, collected downstream in east ditch.

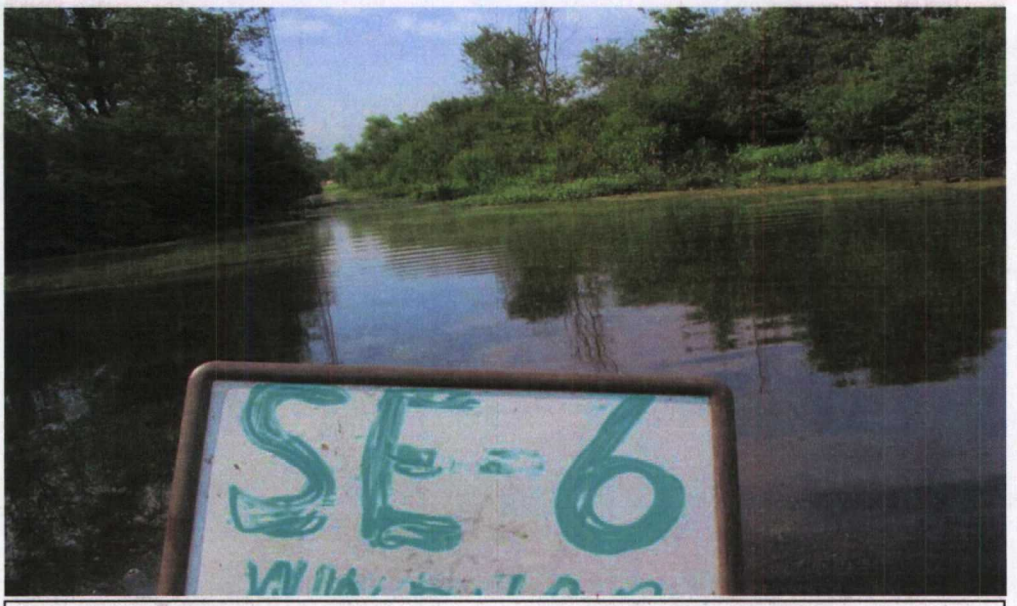


Photo No. 20 Date: 07/18/2006

Location of samples SE-06, collected in the on-site pond.

Photo No. 21 Date: 07/18/2006

Sample location of SE-07 collected from the west ditch south of the pond.

Photo No. 22 Date: 07/18/2006

Sediment core for sample SE-07.

Photo No. 23 Date: 10/12/2006

Location of sample SE-11, the background sediment sample.

Photo No. 24 Date: 07/18/2006

Trash left by fishermen in the on-site pond. This is a bobber.

Appendix D

XRF Results and Data Correlation

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06
Sample #	BKG	BKG B	SS01	SS01 rep	SS01a	SS01a rep
QA/QC		Split Sample		XRF Replicate	Field Duplicate	XRF Replicate
LE	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA
Ti	4296.25	3726.83	3648.11	3480.53	3324.25	3210.38
Cr	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Mn	363.35	289.89	305.04	269.06	272.26	266.27
Fe	24230.27	24252.13	25075.67	23414.73	23438.06	24130.38
Co	164.95	176.54	<LOD	<LOD	<LOD	<LOD
Ni	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cu	33.17	34.94	115.1	94.45	147.63	139.6
Zn	107.35	102.78	216.19	195.93	169.92	174
As	14.25	13.94	13.17	13.21	19	<LOD
Se	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rb	74.88	73.79	88.86	84.72	85.88	83.17
Sr	77.83	76.12	78.55	76.58	73.76	75.22
Zr	222.24	225.93	171.69	179.34	202.89	194.59
Mo	<LOD	<LOD	9.37	<LOD	<LOD	<LOD
Ag	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pb	41.3	44.27	130.47	95.86	128.49	127.65

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06
Sample #	SS02	SS02	SS02 rep	SS02b	SS03	SS03 rep	SS03
QA/QC		XRF Re-Run	XRF Replicate	Split Sample		XRF Replicate	XRF Re-Run
LE	ND	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA	NA
Ti	3279.09	2719.85	3443.77	2940.51	4969.15	3862.17	4027.22
Cr	<LOD	<LOD	<LOD	<LOD	<LOD	174.15	<LOD
Mn	247.7	183.25	231.68	223.46	315.13	331.97	280.19
Fe	23093.78	23519.9	23545.78	23771.71	28959.33	27653.06	27775.38
Co	158.23	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ni	<LOD	<LOD	47.51	69.01	<LOD	<LOD	<LOD
Cu	127.15	115.41	116.86	124.79	74.84	58.91	70.06
Zn	228.02	234.96	275.38	265.25	136.8	121.74	121.97
As	21.95	<LOD	21.47	<LOD	13.11	<LOD	16.56
Se	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rb	89.07	88.32	91.94	93.52	80.98	83.17	80.77
Sr	71.23	67.76	77.1	75.38	75.06	80.25	76.36
Zr	147.58	142.46	138.23	430.99	194.31	181.78	190.32
Mo	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ag	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	68.23	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pb	170.09	172.4	175.98	164.8	116.24	150.33	105.77

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06
Sample #	SS04	SS04b	SS04b	SS04b rep	SS05	SS05b	SS05b rep
QA/QC		Split Sample	XRF Re-Run	XRF Replicate		Split Sample	XRF Replicate
LE	ND	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA	NA
Ti	3664.56	4824.35	3502.47	4242.91	3506.94	4471.48	4463.99
Cr	<LOD	<LOD	<LOD	<LOD	518.29	405.39	445.22
Mn	461.57	345.09	348.17	306.66	359.63	418.06	362.18
Fe	31730.04	30348.58	30553.03	29943.07	31373.1	31062.4	30248.8
Co	<LOD	<LOD	<LOD	<LOD	<LOD	229.9	<LOD
Ni	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cu	115	109.78	159.42	101.05	177.89	173.21	183.68
Zn	154.56	145.98	159.2	134.7	226.58	222.18	222.72
As	20.43	22.01	<LOD	<LOD	<LOD	<LOD	<LOD
Se	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6.31
Rb	86.47	82.3	82.6	81.14	92.13	88.46	80.28
Sr	81.05	82.88	88.64	79.25	98.69	133.1	93.68
Zr	226.26	220.31	233.85	222.98	220.02	197.45	224.36
Mo	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ag	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	<LOD	<LOD	<LOD	<LOD	<LOD	84.93	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pb	187.45	141.52	143.88	177.57	386.84	365.46	350.01

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06
Sample #	SS06	SS06 rep	SS06b	DS04 0-6	DS04 0-6 rep	DS04b 0-6
QA/QC		XRF Replicate	Split Sample		XRF Replicate	
LE	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA
Ti	4230.51	3121.09	3544.81	4265.11	3799.84	4408.46
Cr	498.74	351.01	366.04	<LOD	245.59	246.31
Mn	435.01	333.28	402.26	392.16	348.8	402.99
Fe	28289.48	28552.55	30631.81	29713.79	28347.42	30317.27
Co	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ni	<LOD	<LOD	<LOD	95.03	<LOD	63.89
Cu	295.97	299.6	345.27	192.25	167.4	185.96
Zn	290.27	296.24	328.09	264.22	244.73	250.24
As	<LOD	<LOD	<LOD	19.69	17.6	31.47
Se	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rb	83.53	82.65	89.39	72.78	73.99	75.3
Sr	106.98	106.51	112.89	80.27	80.91	82.08
Zr	210.47	206.78	192.92	196.47	188.11	191.54
Mo	9.77	<LOD	<LOD	<LOD	<LOD	<LOD
Ag	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	<LOD	86.41	88.85	100.82	<LOD	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	15.71
Pb	755.01	741.63	713.14	255.41	232.65	231.48

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06
Sample #	DS04 6-12	DS04 6-12b	DS04 6-12b rep	DS04 12-18	DS04b 12-18	DS04b 12-18 rep
QA/QC		Split Sample	XRF Replicate		Split Sample	XRF Replicate
LE	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA
Ti	3965.32	4740.02	4245.16	3549.44	4115.56	3520.6
Cr	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Mn	392.78	410.69	398.71	413.75	372.1	510.44
Fe	25630.57	27683.79	27852.46	24760.81	21912.91	23630.13
Co	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ni	<LOD	<LOD	50.01	<LOD	<LOD	<LOD
Cu	122.89	108	121.35	42.27	45.69	42.74
Zn	107.78	121.91	130.1	81.29	75.52	85.25
As	16.13	<LOD	<LOD	15.82	<LOD	18.33
Se	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rb	68.48	73.73	71.87	55.99	60.37	61.22
Sr	73.47	69.61	69.27	64.41	59.43	58.67
Zr	232.88	244.34	223.15	204.21	176.46	203.73
Mo	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ag	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pb	114.25	137.61	110.38	39.34	47.42	37.94

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06
Sample #	DS04 18-24	DS04 18-24b	DS04 18-24b rep	DS07 0-6	DS07 0-6 rep	DS07 6-12	DS07b 6-12
QA/QC		Split Sample	XRF Replicate		XRF Replicate		Split Sample
LE	ND	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA	NA
Ti	3289.83	4510.96	4057.78	7771.09	11965.8	3662.46	4166.9
Cr	<LOD	<LOD	<LOD	12333.07	13553.88	298.33	353.24
Mn	391.69	352.74	381.44	7991.92	7154.64	600.06	661.14
Fe	20842.76	21146.73	23024.18	733880.5	744717.25	32929.96	31592.19
Co	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ni	<LOD	<LOD	<LOD	1546.35	3774.38	117.67	112.1
Cu	119.9	115.86	113.48	16965.65	8191.96	1605.75	1178.14
Zn	81.31	74.28	76.89	9241.65	8531.98	2176.99	2073.59
As	9.05	12.69	10.73	505.02	517.68	<LOD	<LOD
Se	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rb	52.53	49.4	48.7	36.57	34.93	47.92	48.71
Sr	56.44	53.68	52.53	92.98	85.59	83.11	82.1
Zr	185.21	190.49	198.76	182.48	149.1	214.76	193.55
Mo	<LOD	<LOD	<LOD	168.05	177.3	15.64	13.51
Ag	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	<LOD	<LOD	<LOD	1895.81	1327.03	162.66	134.61
Sb	<LOD	<LOD	<LOD	452.17	249.06	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	64.72	<LOD	<LOD	<LOD
Pb	47.24	45.78	53.78	6212.2	5563	605.65	536.93

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06	19-Jul-06
Sample #	DS07b 6-12 rep	DS07b 12-18	DS07 12-18	DS07 12-18 rep	DS07a 18-24	DS07b 18-24	DS07b 18-24 rep
QA/QC	XRF Replicate	Split Sample		XRF Replicate		Split Sample	XRF Replicate
LE	ND	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA	NA
Ti	3736.56	3991.9	4768.96	4700.83	3742.06	3761.67	3336.66
Cr	433.55	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Mn	660.51	538.93	410.49	522.68	295.79	340.54	294.89
Fe	36777.29	26382.01	24685.52	22812.78	27626.22	29143.38	26473.08
Co	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ni	114.94	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cu	1937.65	243.74	207.16	224.19	58.87	57.41	42.94
Zn	2388.86	704.69	654.05	665.51	110.28	95.76	101.26
As	37.67	14.06	<LOD	<LOD	13.41	10.8	14.28
Se	<LOD	4.69	<LOD	<LOD	<LOD	<LOD	<LOD
Rb	52.18	65.91	57.5	53.45	84.51	84.1	83.68
Sr	88.03	110.93	115.67	118.17	80.45	89.36	83.74
Zr	165.86	231.91	218.38	195.45	204.64	200.04	191.18
Mo	18.63	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ag	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	88.23	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pb	647.97	88.33	77.6	84.82	37.51	37.44	33.02

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	28-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06
Sample #	SE01	SE01	SE02	SE02a	SE03	SE04
QA/QC		XRF Re-Run		Split Sample		
LE	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA
Ti	3352.04	3005.95	3120.65	3549.36	4197.95	2626.65
Cr	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Mn	237.44	228.84	126	144.59	264.44	<LOD
Fe	33744.39	32509.18	28146.46	30405.15	32908.99	40817.07
Co	<LOD	<LOD	<LOD	<LOD	<LOD	233.59
Ni	258.78	258.17	70.83	87.44	<LOD	<LOD
Cu	98.02	110.77	75.39	73.52	50.04	55.75
Zn	461.98	469.42	297.4	327.84	196.46	127.46
As	52.45	<LOD	41.88	30.33	<LOD	24.48
Se	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Rb	71.76	70.93	85.74	91.68	91.49	65.95
Sr	93.74	92.31	85.53	82.68	89.65	53.36
Zr	155.51	135.06	199.33	170.32	162.43	63.29
Mo	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ag	55.14	<LOD	68.27	60.11	<LOD	<LOD
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	358.61	298.87	201.04	199.31	<LOD	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pb	679.57	690.75	500.31	566.94	144.83	65.07

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	28-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06
Sample #	SE05	SE06	SE07	SE08	SE08	SE09
QA/QC					XRF Re-Run	
LE	ND	ND	ND	ND	ND	ND
LE	ND	ND	ND	ND	ND	ND
P	NA	NA	NA	NA	NA	NA
S	NA	NA	NA	NA	NA	NA
Cl	NA	NA	NA	NA	NA	NA
K	NA	NA	NA	NA	NA	NA
Ca	NA	NA	NA	NA	NA	NA
Ti	2971.03	2912.89	3603.61	3494.21	3047.39	3431.72
Cr	<LOD	<LOD	331.79	216.79	<LOD	<LOD
Mn	168.39	234.38	361.41	555.98	247.7	409.43
Fe	27578.9	45131.38	31925.02	22259.12	20125.38	39143.52
Co	178.6	247.94	286.21	<LOD	<LOD	<LOD
Ni	<LOD	<LOD	<LOD	<LOD	52.65	<LOD
Cu	25.2	101.24	212.69	79.75	65.89	365.72
Zn	115.45	453.54	282.95	186.37	106.81	327.77
As	11.87	22.6	<LOD	<LOD	15.93	29.6
Se	<LOD	<LOD	<LOD	<LOD	<LOD	6.41
Rb	65.84	82.31	76.4	49.1	48.18	81.12
Sr	65.7	71.06	81.23	74.45	63.93	113.87
Zr	120.7	121.37	178.13	179.24	153.86	172.21
Mo	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Ag	41.77	47.14	57.2	<LOD	54.18	50.55
Cd	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Sn	<LOD	<LOD	72.29	<LOD	<LOD	<LOD
Sb	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
I	NA	NA	NA	NA	NA	NA
Ba	ND	ND	ND	ND	ND	ND
Hg	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pb	29.32	101.5	240.3	139.92	80.64	270.75

WINDHAM ALLOYS - SUPPLEMENTAL ESI

XRF DATA

Date	28-Aug-06	28-Aug-06	28-Aug-06
Sample #	SE09a	SE10	SE11
QA/QC	Split Sample		
LE	ND	ND	ND
LE	ND	ND	ND
P	NA	NA	NA
S	NA	NA	NA
Cl	NA	NA	NA
K	NA	NA	NA
Ca	NA	NA	NA
Ti	4159.89	4215.27	3343.24
Cr	<LOD	<LOD	<LOD
Mn	315.25	399.01	<LOD
Fe	38006.2	37131.24	118663.36
Co	<LOD	240.48	<LOD
Ni	<LOD	<LOD	<LOD
Cu	439.88	453.1	124.76
Zn	362.03	486.06	176.61
As	<LOD	28.02	39.53
Se	<LOD	<LOD	<LOD
Rb	79.48	78.79	56.33
Sr	93.93	87.62	66.29
Zr	157.2	194.37	120.85
Mo	<LOD	<LOD	<LOD
Ag	<LOD	<LOD	<LOD
Cd	<LOD	<LOD	<LOD
Sn	<LOD	<LOD	<LOD
Sb	<LOD	<LOD	<LOD
I	NA	NA	NA
Ba	ND	ND	ND
Hg	14.16	<LOD	<LOD
Pb	252.6	305.2	82.31

INTEROFFICE COMMUNICATION

9/01/2006

To: Andrew Kocher, DERR/NEDO

From: Tim Christman, DERR/CO

Subject: Correlations of XRF and Lab Data, Windham Alloys

I reanalyzed the soil data for lead in the SS series specimens (which have undergone the extensive multi-increment sampling process). The table below shows the raw values used for the correlation:

ID	XRF	Lab
SS-01	130.47	99.4
SS-01A	128.49	114
SS-02A	170.1	220
SS-02B	164.8	176
SS-03	116.24	108
SS-04	187.45	209
SS-05	386	726
SS-06A	755	1030
SS-06B	713	1170
SS-BKG	41.3	42

TABLE 1. LEAD DATA FOR SOIL SPECIMENS

The plot below shows that there is a very good correlation between the XRF and lab values. I used a correlation that forces the regression line through the origin, that is, a zero value of lead by XRF will correspond to zero predicted for the lab test. I used that approach because a strict regression would result in a slightly negative value of lead by the lab test when the XRF value was zero - a physically meaningless situation. The regression equation is:

LAB VALUE = 1.49 (XRF VALUE)

The correlation coefficient value is statistically significant at the 95 percent level.

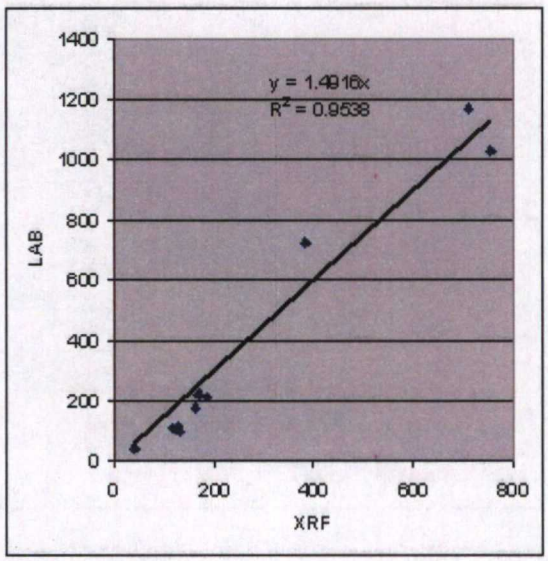


FIGURE 1. LEAD CONCENTRATIONS BY XRF AND LAB TEST.

A similar correlation exists for copper. Table 2, below, shows the raw data for that metal in the SS soil samples.

ID	XRF	Lab
SS-01	115.1	117
SS-01A	147.6	151
SS-02A	127.1	125
SS-02B	124.7	166
SS-03	74.8	68.5
SS-04	115	94.1
SS-05	178	217
SS-06A	296	350
SS-06B	345	321
SS-BKG	33.17	31.7

TABLE 2. COPPER DATA FOR SOIL SPECIMENS.

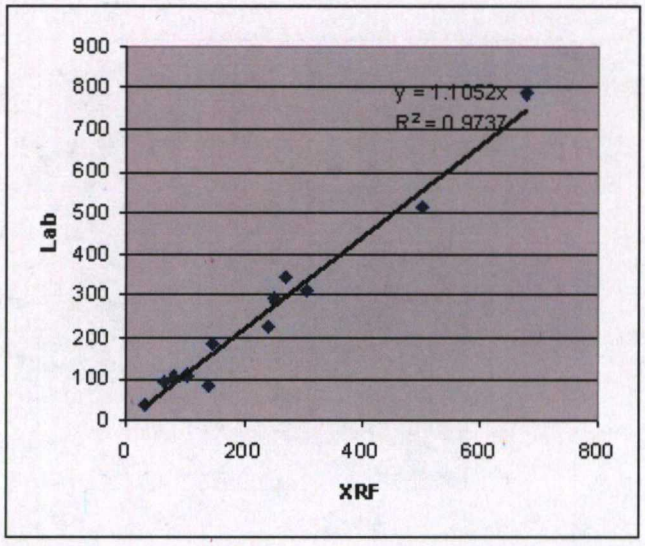


FIGURE 2. COPPER CONCENTRATIONS BY XRF AND LAB TEST

The resulting equation is:

LAB VALUE = 1.05 (XRF VALUE)

As before, the correlation coefficient indicates statistical significance.

INTEROFFICE COMMUNICATION

9/05/2006

To: Andrew Kocher, DERR/NEDO

From: Tim Christman, DERR/CO

Subject: Correlations of XRF and Lab Data, Windham Alloys

I analyzed the sediment data for lead in the SE series specimens. The table below shows the raw values used for the correlation:

ID	XRF	Lab
SE-01	679	788
SE-02	500	514
SE-03	144.8	184
SE-04	65.07	93.3
SE-05	29.32	37.5
SE-06	101.5	108
SE-07	240.3	228
SE-08	139.9	83
SE-09	270.8	345
SE-09a	252	290
SE-10	305.2	311
SE-11	82.31	103

TABLE 1. LEAD DATA FOR SEDIMENT SPECIMENS

The plot below shows that there is a very good correlation between the XRF and lab values. I used a correlation that forces the regression line through the origin, that is, a zero value of lead by XRF will correspond to zero predicted for the lab test. I used that approach because a strict regression would result in a slightly negative value of lead by the lab test when the XRF value was zero - a physically meaningless situation. The regression equation is:

LAB VALUE = 1.11 (XRF VALUE)

The correlation coefficient value is statistically significant at the 95 percent level.

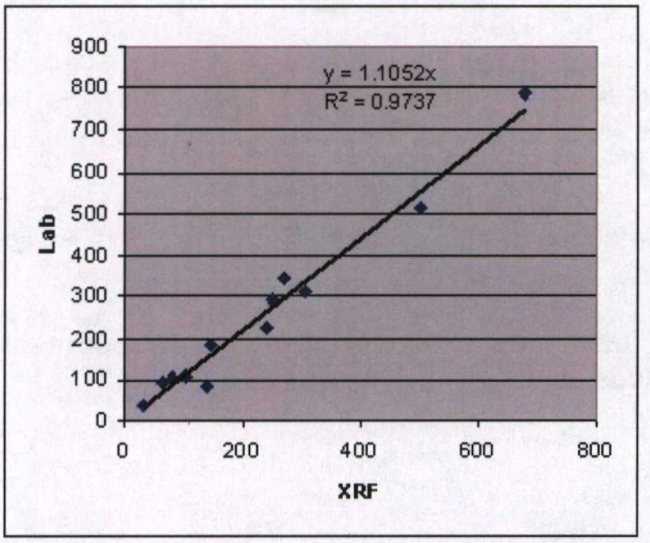


FIGURE 1. LEAD CONCENTRATIONS BY XRF AND LAB TEST.

A similar correlation exists for copper. Table 2, below, shows the raw data for that metal in the SE soil samples.

ID	XRF	Lab
SE-01	98	132
SE-02	75.4	82.4
SE-03	50.04	61.1
SE-04	55.75	82.1
SE-05	25.2	52.9
SE-06	101.24	141
SE-07	212.7	244
SE-08	79.75	72.4
SE-09	365	533
SE-09a	440	428
SE-10	453.1	505
SE-11	124.8	187

TABLE 2. COPPER DATA FOR SOIL SPECIMENS.

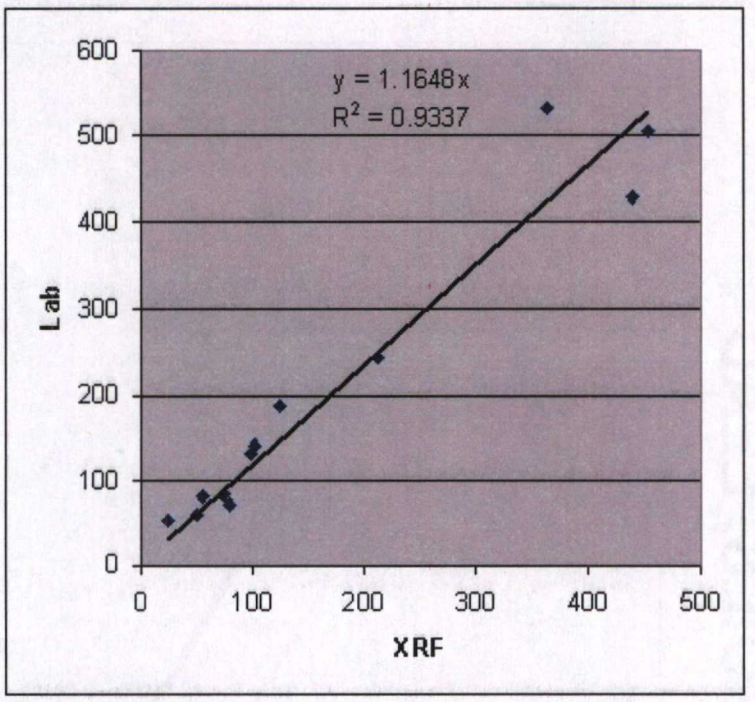
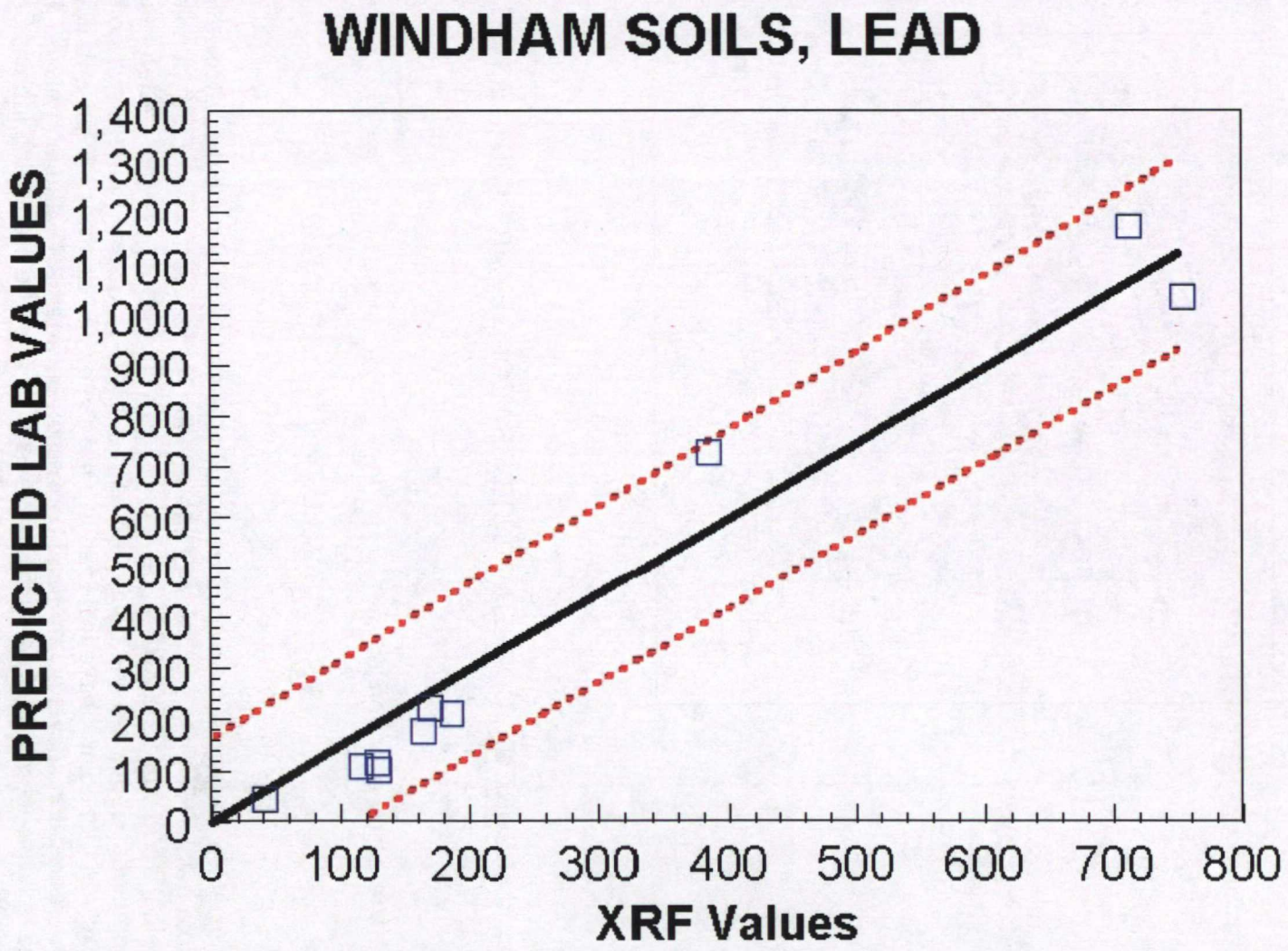


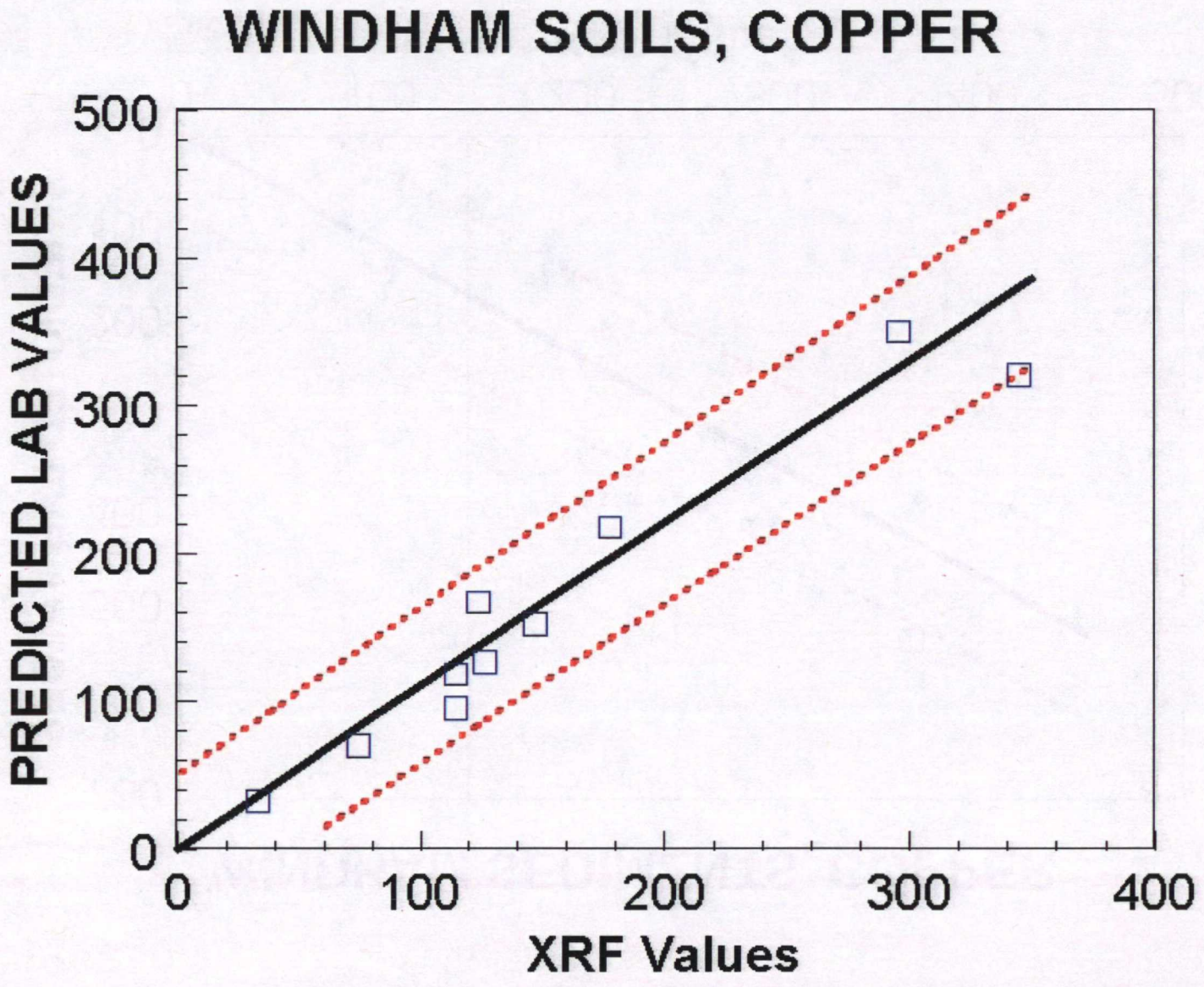
FIGURE 2. COPPER CONCENTRATIONS BY XRF AND LAB TEST

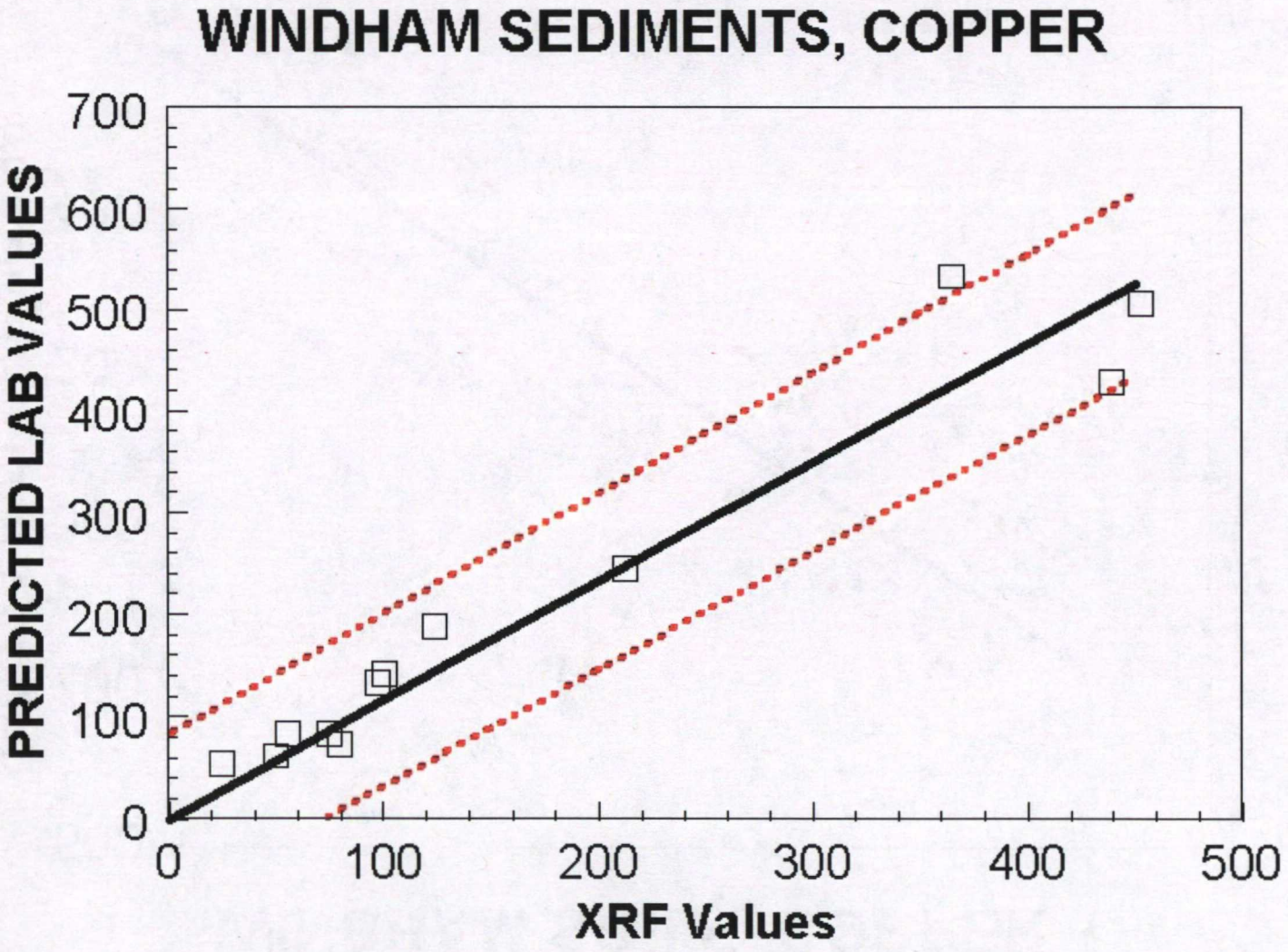
The resulting equation is:

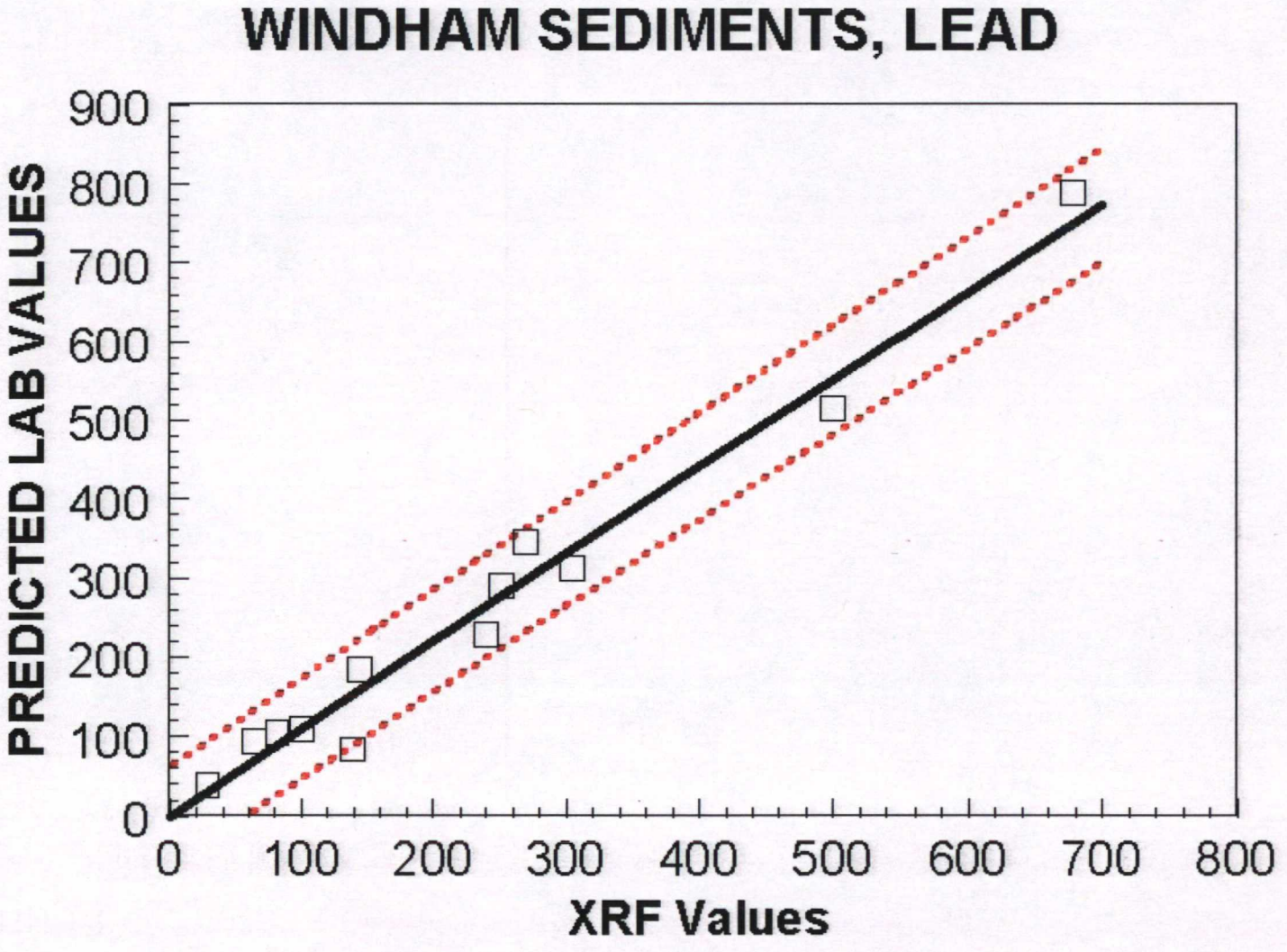
LAB VALUE = 1.16 (XRF VALUE)

As before, the correlation coefficient indicates statistical significance. However, one data point, SE-09, is a little out of line with the rest of the series. For that point the lab value is 533 while the XRF value is only 365. Thus, that point gives a lab value somewhat above the line based on the rest of the samples. Since I have no reason to exclude that point, I have included it in the regression analysis. Even with that point, the regression shows a very good correlation between XRF and lab values. Thus, I have no concern about using this regression analysis to predict the lab values of specimens analyzed with the mobile XRF unit.


WINDHAM SOILS, LEAD
PREDICTED LAB VALUES
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
0
100
200
300
400
500
600
700
800
XRF Values


WINDHAM SOILS, COPPER
PREDICTED LAB VALUES
500
400
300
200
100
0
0
100
200
300
400
XRF Values


WINDHAM SEDIMENTS, COPPER
PREDICTED LAB VALUES
700
600
500
400
300
200
100
0
0
100
200
300
400
500
XRF Values


WINDHAM SEDIMENTS, LEAD
PREDICTED LAB VALUES
900
800
700
600
500
400
300
200
100
0
0
100
200
300
400
500
600
700
800
XRF Values

Appendix E

GIS Maps and Tables

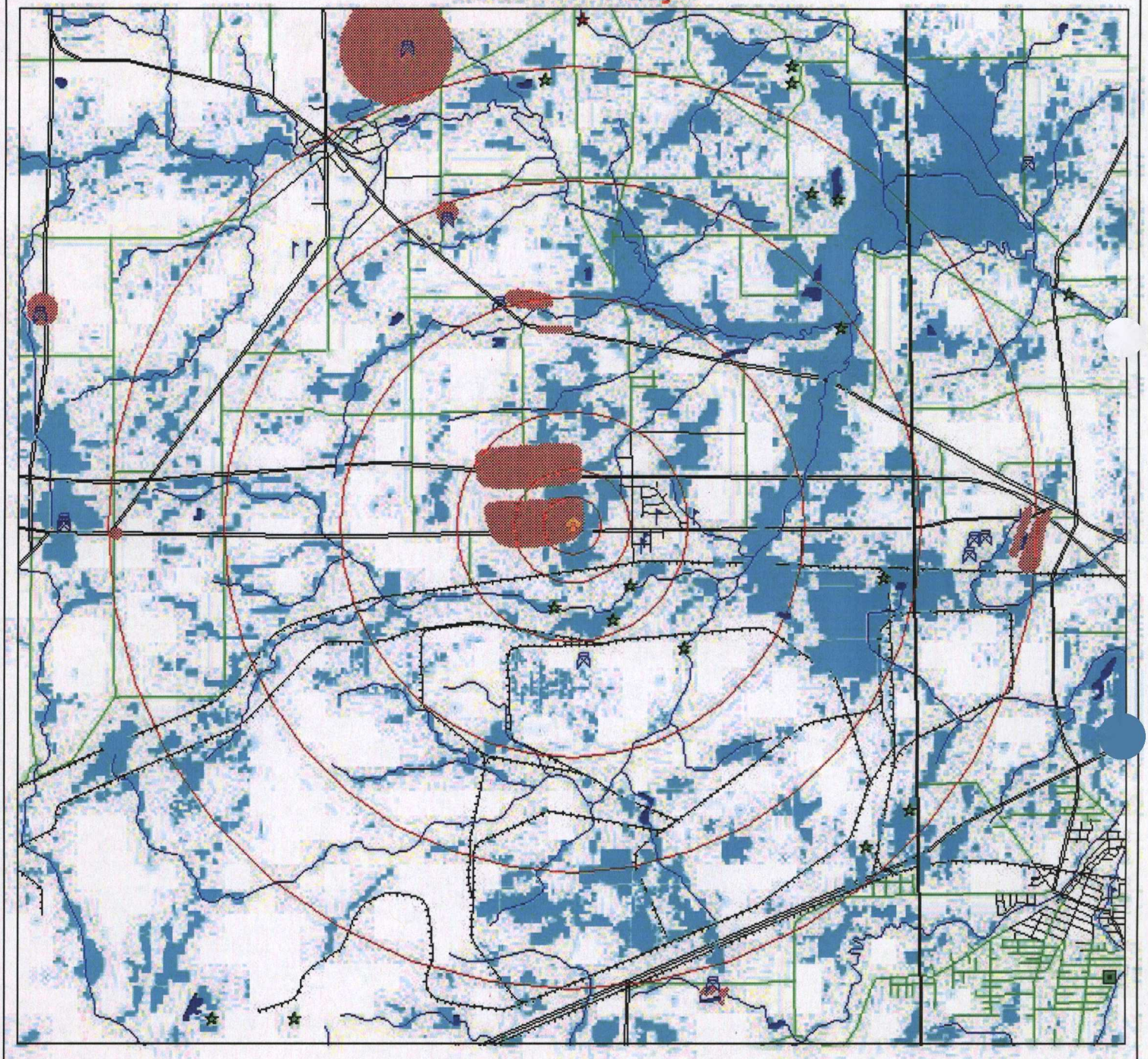
Ohio EPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

Portage County

Windham Alloys



Site
School
Hospital
Public Surface Water Systems
Public Ground Water Systems
US Endangered/Threatened Species
Ohio Endangered/Threatened Species

Wetland Area
Lakes & Ponds
Wellhead Protection Area
Limit of Radius From Site
County Boundaries

Rivers & Streams
Railroad
State and Federal Highways
Local Roads
Municipal Roads

N

2 0 2 Miles

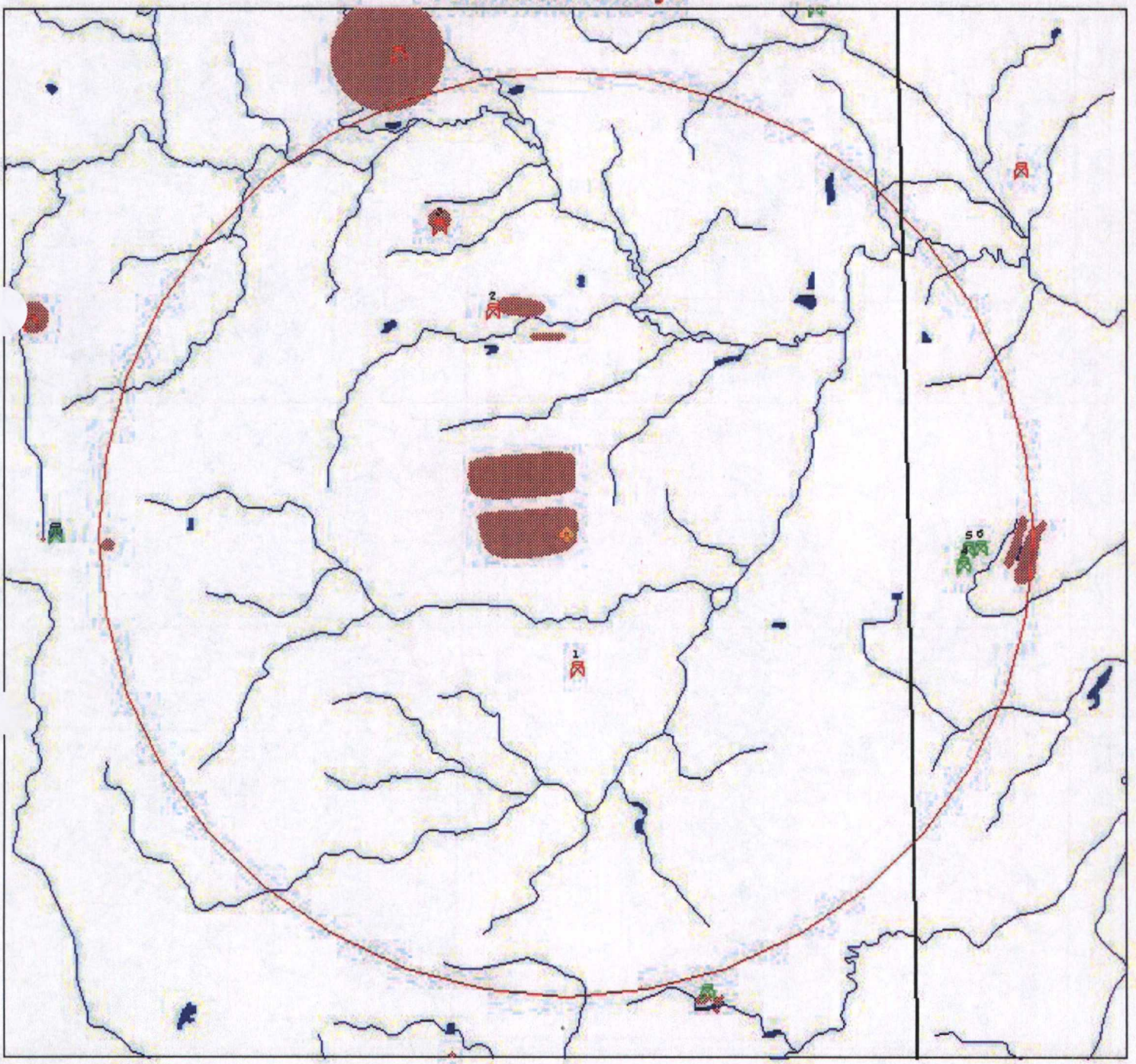
Ohio EPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

PUBLIC GROUND WATER SYSTEMS

Windham Alloys



Site

Public Ground Water Systems
- Community
- Non-Community/Transient
- Non-Community/Non-Transient

Rivers & Streams
Wellhead Protection Area
Lakes & Ponds
Limit of Radius From Site
County Boundaries

1 0 1 Miles

N

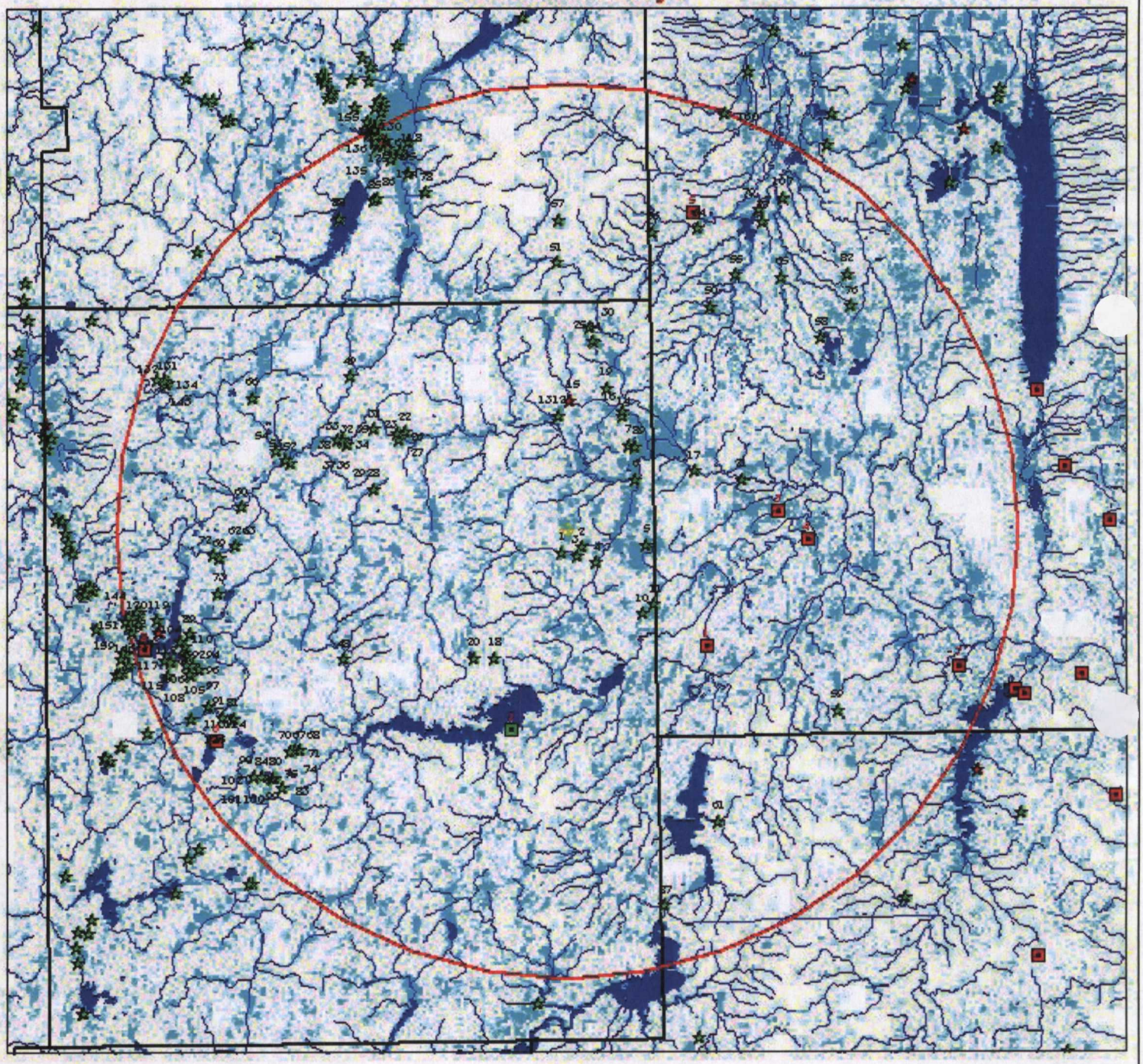
Ohio EPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

NATURAL HERITAGE DATA

Windham Alloys



Site

US Endangered/Threatened Species

Ohio Endangered/Threatened Species

Public Surface Water Systems

Community

Non-Community/Transient

Non-Community/Non-Transient

Rivers & Streams

Wetland Area

Lakes & Ponds

Limit of Radius From Site

County Boundaries

N

4 0 4 8 Miles

Windham Alloys Censes Data							
RADIUS	TOTAL	WHITE	BLACK	INDIAN	ASIAN	HAWAII_PAC	OTHER
3.00 - 4.00	3493	3426	22	6	5	1	33
2.00 - 3.00	1737	1711	9	2	2	0	13
1.00 - 2.00	2186	2072	77	4	1	0	32
0.50 - 1.00	1333	1240	65	3	0	0	25
0.25 - 0.50	59	58	0	0	0	0	0
0.00 - 0.25	20	19	0	0	0	0	0
TOTALS	8828	8526	173	15	8	1	103

Windham Alloys

Ground Water Systems

ID_	PWS_ID	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
1	6704812	Community	WINDHAM,VILLAGE OF	9621 EAST CENTER STREET	WINDHAM	OH	1.1628	3150
2	6700612	Community	PM ESTATES	30700 BAINBRIDGE RD.,UNIT L	SOLON	OH	2.0364	600
3	6705112	Community	HOMESTEAD MANOR MOBILE H	P.O. BOX 313	GARRETTSVILLE	OH	2.8727	92
4	7841212	Non-Community/Transient	RIDGE RANCH CAMP-CENTER	5219 SR 303	NEWTON FALLS	OH	3.4137	186
5	7841312	Non-Community/Transient	RIDGE RANCH CAMP-CLUBHSE	5219 SR 303	NEWTON FALLS	OH	3.4472	186
6	7841412	Non-Community/Transient	RIDGE RANCH CAMP-A LINE	5219 SR 303	NEWTON FALLS	OH	3.5475	186

Windham Alloys

Surface Water Systems

ID_	PWS_ID	SYS_SOURCE	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
1	7802311	Surface Water	Community	NEWTON FALLS, CITY OF	19 N.CANAL STREET	NEWTON FALLS	OH	6.0620	6150
2	6766711	Surface Water	Non-Community/Transient	ODNR-WEST BRANCH-TOWER	5708 ESWORTHY ROAD	RAVENNA	OH	6.9824	1400
3	7802812	Purchased Surface Water	Community	SOUTHINGTON M.H. PARK	657 LONGMERE DR.	KENT	OH	7.0219	240
4	7806112	Purchased Surface Water	Community	TRUMBULL CO.-WARREN TWP	7500 ANDERSON AVENUE NE	WARREN	OH	7.9724	468
5	7803911	Surface Water	Community	WEST FARMINGTON, VILLAGE	P.O. BOX 215	WEST FARMINGTON	OH	11.4874	1100
6	6703211	Surface Water	Community	RAVENNA, CITY OF	5383 LAKEWOOD ROAD	RAVENNA	OH	13.6479	15000
7	7804403	Purchased Surface Water	Community	LORDSTOWN, VILLAGE OF	1491 SALT SPRINGS ROAD, SW	WARREN	OH	13.7612	3780
8	7700011	Surface Water	Community	AKRON, CITY OF	146 S.HIGH STREET P.O.BOX 3665	AKRON	OH	14.6004	308720

Windham Alloys

Natural Heritage Data

ID_	STATUS	DISTANCE	SCI_NAME	COM_NAME
1	State Endangered	0.7178	SPHYRAPICUS VARIUS	YELLOW-BELLIED SAPSUCKER
2	State Endangered	0.7350	ICHTHYOMYZON GREELEYI	MOUNTAIN BROOK LAMPREY
3	State Threatened	0.8956	PLAGIOTHECIUM LATEBRICOLA	LURKING LESKEA
4	State Endangered	1.4437	ICHTHYOMYZON GREELEYI	MOUNTAIN BROOK LAMPREY
5	State Threatened	2.7249	EQUISETUM SYLVATICUM	WOODLAND HORSETAIL
6	State Endangered	2.8940	POTENTILLA ARGUTA	TALL CINQUEFOIL
7	State Threatened	3.5598	LECHEA PULCHELLA	LEGGETT'S PINWEED
8	State Endangered	3.6485	LYCOPODIUM LAGOPUS	ONE-CONED CLUB-MOSS
9	State Endangered	3.6485	LYCOPODIELLA MARGUERITAE	NORTHERN PROSTRATE CLUB-MOSS
10	State Threatened	3.7679	EPILOBIUM STRICTUM	SIMPLE WILLOW-HERB
11	State Endangered	3.8202	CATOCALA GRACILIS	GRACEFUL UNDERWING
12	State Threatened	3.8839	CLEMMYS GUTTATA	SPOTTED TURTLE
13	State Endangered	3.8839	CATOCALA GRACILIS	GRACEFUL UNDERWING
14	State Threatened	4.2936	PANICUM PHILADELPHICUM	PHILADELPHIA PANIC GRASS
15	Federally Threatened	4.4009	ACONITUM NOVEBORACENSE	NORTHERN MONKSHOOD
16	State Threatened	4.4308	LECHEA PULCHELLA	LEGGETT'S PINWEED
17	State Threatened	4.7401	CALLITRICHE VERNA	VERNAL WATER-STARWORT
18	State Threatened	4.8642	PLAGIOTHECIUM LATEBRICOLA	LURKING LESKEA
19	State Threatened	4.9879	CLEMMYS GUTTATA	SPOTTED TURTLE
20	State Endangered	5.2551	CIRCUS CYANEUS	NORTHERN HARRIER
21	State Endangered	6.0790	ICHTHYOMYZON GREELEYI	MOUNTAIN BROOK LAMPREY
22	State Threatened	6.3155	CLEMMYS GUTTATA	SPOTTED TURTLE
23	State Threatened	6.3746	MELANTHIUM VIRGINICUM	BUNCHFLOWER
24	State Threatened	6.4370	ADLUMIA FUNGOSA	MOUNTAIN-FRINGE
25	State Endangered	6.5060	CAREX ARCTATA	DROOPING WOOD SEDGE
26	State Endangered	6.5160	PLATANTHERA PSYCODES	SMALL PURPLE FRINGED ORCHID
27	State Threatened	6.5160	MELANTHIUM VIRGINICUM	BUNCHFLOWER
28	State Threatened	6.5745	EPILOBIUM STRICTUM	SIMPLE WILLOW-HERB
29	State Endangered	6.5745	PLATANTHERA PSYCODES	SMALL PURPLE FRINGED ORCHID
30	State Threatened	6.9135	ADLUMIA FUNGOSA	MOUNTAIN-FRINGE
31	State Threatened	7.2434	CAREX BRUNNESCENS	BROWNISH SEDGE
32	State Threatened	7.8724	POA PALUDIGENA	MARSH SPEAR GRASS
33	State Threatened	7.9896	CALOPOGON TUBEROSUS	GRASS-PINK
34	State Threatened	7.9896	PANICUM BOREALE	NORTHERN PANIC GRASS
35	State Threatened	7.9896	MELANTHIUM VIRGINICUM	BUNCHFLOWER
36	State Threatened	7.9896	POGONIA OPHIOGLOSSOIDES	ROSE POGONIA
37	State Threatened	7.9896	VACCINIUM OXYCOCCOS	SMALL CRANBERRY
38	State Endangered	7.9896	ARETHUSA BULBOSA	DRAGON'S-MOUTH
39	State Threatened	7.9896	GALIUM LABRADORICUM	BOG BEDSTRAW
40	State Threatened	7.9896	SALIX CANDIDA	HOARY WILLOW
41	State Threatened	8.0655	MELANTHIUM VIRGINICUM	BUNCHFLOWER
42	State Threatened	8.2061	LILIUM PHILADELPHICUM	WOOD LILY
43	State Endangered	8.2061	CYPRIPEDIUM CANDIDUM	WHITE LADY'S-SLIPPER
44	State Threatened	8.2061	MELANTHIUM VIRGINICUM	BUNCHFLOWER
45	State Threatened	8.2061	CALOPOGON TUBEROSUS	GRASS-PINK
46	State Threatened	8.2061	SALIX CANDIDA	HOARY WILLOW
47	State Threatened	8.2061	VACCINIUM OXYCOCCOS	SMALL CRANBERRY

Windham Alloys

Natural Heritage Data

ID_	STATUS	DISTANCE	SCI_NAME	COM_NAME
48	State Endangered	8.5494	ICHTHYOMYZON GREELEYI	MOUNTAIN BROOK LAMPREY
49	State Endangered	8.8731	LIGUMIA NASUTA	EASTERN PONDMUSSEL
50	State Threatened	8.9897	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER
51	State Threatened	9.0599	MELAMPYRUM LINEARE	COW-WHEAT
52	State Threatened	9.4706	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
53	State Endangered	9.6075	SCHIZACHNE PURPURASCENS	FALSE MELIC
54	State Threatened	9.9925	CALLA PALUSTRIS	WILD CALLA
55	State Endangered	10.3407	ICHTHYOMYZON FOSSOR	NORTHERN BROOK LAMPREY
56	State Threatened	10.4908	CLEMMYS GUTTATA	SPOTTED TURTLE
57	State Threatened	10.4975	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER
58	State Threatened	10.7000	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER
59	State Threatened	10.8258	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER
60	State Endangered	10.8272	LIGUMIA NASUTA	EASTERN PONDMUSSEL
61	State Threatened	10.9743	GYMNOCARPIUM DRYOPTERIS	COMMON OAK FERN
62	State Endangered	11.0051	POLYGONUM CILINODE	MOUNTAIN BINDWEED
63	State Endangered	11.0051	VIBURNUM OPULUS VAR AMERICANUM	HIGHBUSH-CRANBERRY
64	State Endangered	11.1102	ICHTHYOMYZON FOSSOR	NORTHERN BROOK LAMPREY
65	State Threatened	11.1665	LATHYRUS OCHROLEUCUS	YELLOW VETCHLING
66	State Threatened	11.3612	CLEMMYS GUTTATA	SPOTTED TURTLE
67	State Endangered	11.5134	POTAMOGETON PRAELONGUS	WHITE-STEMMED PONDWEED
68	State Endangered	11.5134	ELEOCHARIS ROBBINSII	ROBBINS' SPIKE-RUSH
69	State Endangered	11.5454	POLYGONUM CILINODE	MOUNTAIN BINDWEED
70	State Threatened	11.6154	ELEOCHARIS OLIVACEA	OLIVACEOUS SPIKE-RUSH
71	State Endangered	11.6154	POTAMOGETON PRAELONGUS	WHITE-STEMMED PONDWEED
72	State Endangered	11.7265	SALIX PEDICELLARIS	BOG WILLOW
73	State Threatened	11.7357	CAREX OLIGOSPERMA	FEW-SEEDED SEDGE
74	State Threatened	11.7412	ELEOCHARIS OLIVACEA	OLIVACEOUS SPIKE-RUSH
75	State Threatened	11.7412	MYRIOPHYLLUM SIBIRICUM	AMERICAN WATER-MILFOIL
76	State Threatened	12.1439	VACCINIUM MYRTILLOIDES	VELVET-LEAVED BLUEBERRY
77	State Endangered	12.3142	CAREX CEPHALOIDEA	THIN-LEAVED SEDGE
78	State Threatened	12.3242	TYTO ALBA	BARN OWL
79	State Threatened	12.6014	POLYGONUM ROBUSTIUS	COARSE SMARTWEED
80	State Endangered	12.7125	POLYGONUM SETACEUM VAR INTERJECTUM	BRISTLY SMARTWEED
81	State Endangered	12.7174	SPARGANIUM CHLOROCARPUM	SMALL BUR-REED
82	State Endangered	12.7308	VIBURNUM OPULUS VAR AMERICANUM	HIGHBUSH-CRANBERRY
83	State Threatened	12.7373	CLEMMYS GUTTATA	SPOTTED TURTLE
84	State Endangered	12.7917	POLYGONUM SETACEUM VAR INTERJECTUM	BRISTLY SMARTWEED
85	State Threatened	12.8487	CAREX ALBOLUTESCENS	PALE STRAW SEDGE
86	State Threatened	12.8675	VACCINIUM MYRTILLOIDES	VELVET-LEAVED BLUEBERRY
87	State Threatened	12.9290	LECHEA PULCHELLA	LEGGETT'S PINWEED
88	State Threatened	12.9776	ERIMYZON SUCETTA	LAKE CHUBSUCKER
89	State Threatened	12.9829	CAREX OLIGOSPERMA	FEW-SEEDED SEDGE
90	State Threatened	13.0037	ERIMYZON SUCETTA	LAKE CHUBSUCKER
91	State Endangered	13.0092	SPARGANIUM CHLOROCARPUM	SMALL BUR-REED
92	State Threatened	13.0524	CALLA PALUSTRIS	WILD CALLA
93	State Endangered	13.0524	CAREX LIMOSA	MUD SEDGE
94	State Threatened	13.0524	VACCINIUM OXYCOCCOS	SMALL CRANBERRY

Windham Alloys

Natural Heritage Data

ID_	STATUS	DISTANCE	SCI_NAME	COM_NAME
95	State Threatened	13.1523	CALLITRICHE VERNA	VERNAL WATER-STARWORT
96	State Threatened	13.1647	CAREX OLIGOSPERMA	FEW-SEEDED SEDGE
97	State Threatened	13.1647	CALLA PALUSTRIS	WILD CALLA
98	State Endangered	13.2205	CATOCALA GRACILIS	GRACEFUL UNDERWING
99	State Endangered	13.2205	UTRICULARIA GEMINISCAPA	TWO-SCAPED BLADDERWORT
100	State Endangered	13.2205	CORDULIA SHURTLEFFII	AMERICAN EMERALD
101	State Endangered	13.2205	CAREX ECHINATA	LITTLE PRICKLY SEDGE
102	State Endangered	13.2205	EPIGLAEA APIATA	POINTED SALLOW
103	State Endangered	13.2205	LEUCORRHINIA FRIGIDA	FROSTED WHITEFACE
104	State Threatened	13.2240	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
105	State Threatened	13.2474	APOCYNUM SIBIRICUM	CLASPING-LEAVED DOGBANE
106	State Threatened	13.2544	CALLA PALUSTRIS	WILD CALLA
107	State Endangered	13.3284	CIRCUS CYANEUS	NORTHERN HARRIER
108	State Endangered	13.3296	GLYCERIA ACUTIFLORA	SHARP-GLUMED MANNA GRASS
109	State Threatened	13.3296	HYPERICUM BOREALE	NORTHERN ST. JOHN'S-WORT
110	State Threatened	13.3411	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
111	State Endangered	13.3505	VIOLA PRIMULIFOLIA	PRIMROSE-LEAVED VIOLET
112	State Threatened	13.3564	CALLA PALUSTRIS	WILD CALLA
113	State Threatened	13.6313	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
114	State Threatened	13.6313	MYRIOPHYLLUM SIBIRICUM	AMERICAN WATER-MILFOIL
115	State Threatened	13.7820	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
116	State Threatened	13.8330	ERIMYZON SUCETTA	LAKE CHUBSUCKER
117	State Endangered	13.8452	POTAMOGETON ROBBINSII	ROBBINS' PONDWEED
118	State Threatened	13.8524	CALLA PALUSTRIS	WILD CALLA
119	State Endangered	13.8904	CORALLORHIZA TRIFIDA	EARLY CORAL-ROOT
120	State Threatened	13.8904	MENYANTHES TRIFOLIATA	BUCKBEAN
121	State Threatened	13.8904	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
122	State Threatened	13.8904	CAREX OLIGOSPERMA	FEW-SEEDED SEDGE
123	State Threatened	13.8904	CALLA PALUSTRIS	WILD CALLA
124	State Threatened	13.9251	EQUISETUM SYLVATICUM	WOODLAND HORSETAIL
125	State Threatened	13.9251	CALLA PALUSTRIS	WILD CALLA
126	State Threatened	13.9354	WOLFFIELLA GLADIATA	WOLFFIELLA
127	Federally Threatened	13.9673	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE
128	State Endangered	13.9859	POTAMOGETON ROBBINSII	ROBBINS' PONDWEED
129	State Threatened	14.0793	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
130	State Endangered	14.0836	LIGUMIA NASUTA	EASTERN PONDMUSSEL
131	State Threatened	14.1290	WOLFFIELLA GLADIATA	WOLFFIELLA
132	State Endangered	14.1889	SISTRURUS CATENATUS	EASTERN MASSASAUGA
133	State Threatened	14.2012	CALLA PALUSTRIS	WILD CALLA
134	State Threatened	14.2642	WOLFFIELLA GLADIATA	WOLFFIELLA
135	State Threatened	14.3623	POA PALUDIGENA	MARSH SPEAR GRASS
136	State Threatened	14.4075	POLYGONUM ROBUSTIUS	COARSE SMARTWEED
137	State Threatened	14.4075	POA PALUDIGENA	MARSH SPEAR GRASS
138	State Threatened	14.4342	DESCHAMPSIA FLEXUOSA	CRINKLED HAIR GRASS
139	State Threatened	14.4411	WOLFFIELLA GLADIATA	WOLFFIELLA
140	Federally Threatened	14.4703	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE
141	State Endangered	14.4796	HYDROCOTYLE UMBELLATA	NAVELWORT

Windham Alloys

Natural Heritage Data

ID_	STATUS	DISTANCE	SCI_NAME	COM_NAME
142	State Endangered	14.4796	CAREX DISPERMA	TWO-SEEDED SEDGE
143	State Threatened	14.5141	WOLFFIELLA GLADIATA	WOLFFIELLA
144	State Endangered	14.5164	NAJAS GRACILLIMA	THREAD-LIKE NAIAD
145	State Threatened	14.5257	CORNUS CANADENSIS	BUNCHBERRY
146	State Endangered	14.5598	POTAMOGETON FRIESII	FRIES' PONDWEED
147	State Threatened	14.7105	CAREX PROJECTA	NECKLACE SEDGE
148	State Threatened	14.7105	CORNUS CANADENSIS	BUNCHBERRY
149	State Threatened	14.7105	POA PALUDIGENA	MARSH SPEAR GRASS
150	State Endangered	14.7105	VIBURNUM OPULUS VAR AMERICANUM	HIGHBUSH-CRANBERRY
151	State Endangered	14.7786	HYDROCOTYLE UMBELLATA	NAVELWORT
152	State Endangered	14.8069	HYDROCOTYLE UMBELLATA	NAVELWORT
153	State Endangered	14.8245	BOTAURUS LENTIGINOSUS	AMERICAN BITTERN
154	State Endangered	14.8655	HYDROCOTYLE UMBELLATA	NAVELWORT
155	State Endangered	14.8955	TOMENTYPNUM NITENS	FUZZY HYPNUM MOSS
156	State Threatened	14.9049	POA PALUDIGENA	MARSH SPEAR GRASS
157	State Threatened	14.9049	CORNUS CANADENSIS	BUNCHBERRY
158	State Endangered	14.9150	CORALLORHIZA TRIFIDA	EARLY CORAL-ROOT
159	State Endangered	14.9634	HYDROCOTYLE UMBELLATA	NAVELWORT
160	State Endangered	14.9801	ICHTHYOMYZON FOSSOR	NORTHERN BROOK LAMPREY